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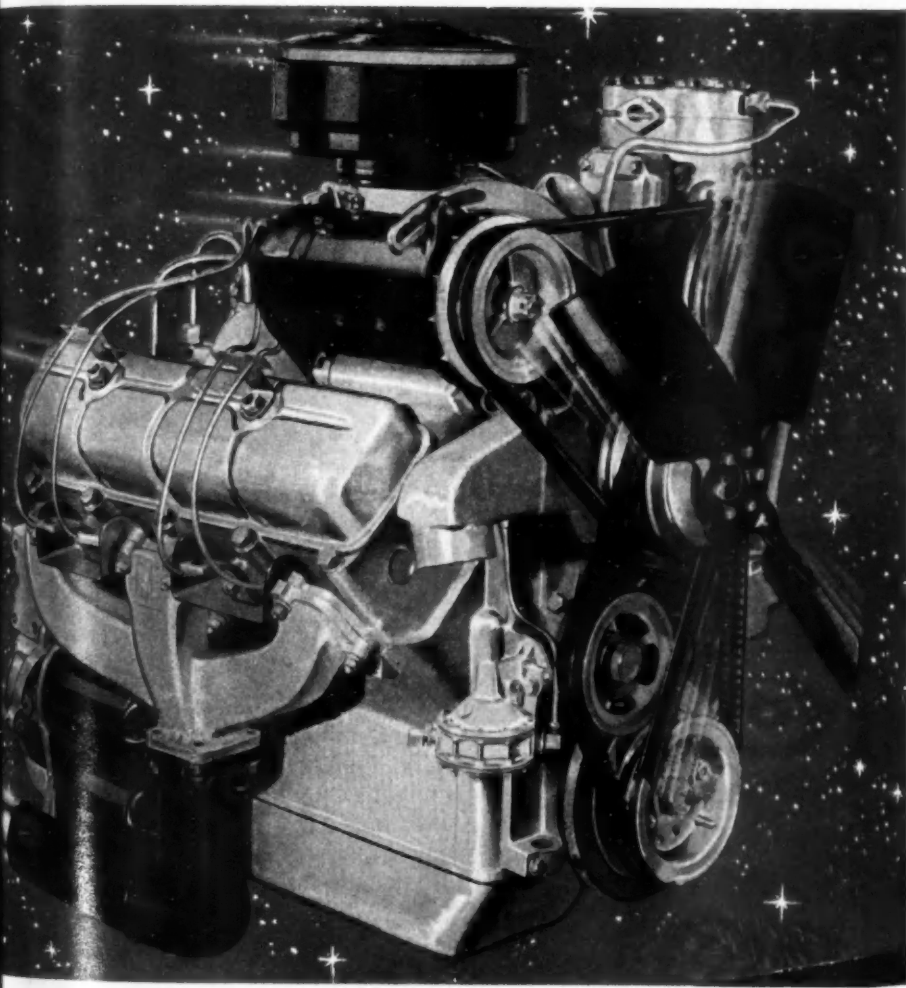
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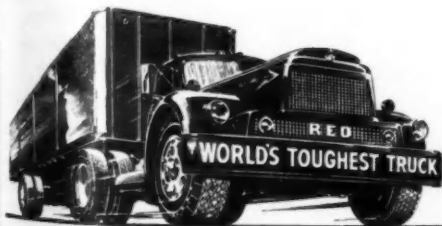
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A compact 39½" long, weighing only
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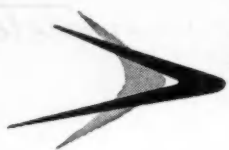
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Dodge has changed the picture
on performance, price!

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COMMERCIAL C



Courtesy of Kern's Bakery, Knoxville, Tenn.

Bodies by *Grumman*

The Bodies that converted steel-body makers to aluminum

When manufacturers of *steel* delivery-bodies announce *aluminum* models, it's a tribute to the delivery economies of Olson Aluminum Alloy Bodies by Grumman — the "bodies that pay for themselves thru Savings." They weigh *less*, dent *less*, corrode *less*, last *longer* and bring *better prices* in the used truck market.

The shrewdest fleet operators in America have proved that higher-priced Olson Bodies are cheaper than the low-priced steel bodies they replaced. This preference for Olson performance economies explains the sudden conversion of steel-body manufacturers to aluminum.

Olson $\frac{1}{8}$ "-thick side panels, side skirts, rub rails, rear quarter panels and floor panels weigh less than thin steel panels; they reduce routine denting as much as 90% and save excessive corrosion repairs.

Olson Bodies permit more payload — a $\frac{3}{4}$ -ton chassis with an Olson Body can carry $1\frac{1}{4}$ -ton payloads and 1-ton Olsons carry as much as $1\frac{1}{2}$ ton steel body units—and do it without exceeding the capacity ratings of axles, springs and maximum tires.

The elimination of excessive body weight results in savings of gasoline, tires,

brakes, clutches, springs, king pins, spindles and lessens the strain on the engine and cooling system in frequent-stop deliveries.

Olson Bodies by Grumman are of aero-type design. They are the result of Grumman's Quarter Century of "Know-How" in building fighter planes and dive bombers and 23 years' experience in building heat-treated aluminum-alloy truck bodies. Aero-type design means stress-bearing shell construction — the impacts are absorbed by the whole body, not just part of it. These Aero-type Olson Bodies are not "rigid" shells—they are resilient—they flex and roll with the punch or impact, just as the aluminum wings of a plane flex as they absorb the terrific pressure of high velocity winds and the sudden jolts of updraft and downdraft pockets at high speeds.

There is no substitute for quality and know-how! Your best investment is in the Aluminum Alloy Bodies by Grumman that converted steel-body competitors to the use of aluminum.

Demand for Olson Bodies exceeds the supply, but it is economy to wait for bodies that pay for themselves thru Savings. Order ahead from your own truck dealer—Chevrolet, Ford, GMC.

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THIS MONTH'S FEATURES

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Detour! From 50 m.p.h. your truck shifts to moan and groan driving on a lonely, unlit farm road.

It's great to know that no matter where a detour leads, your trucks are equipped with Blue Streak heavy-duty ignition parts built to keep rolling even under the toughest conditions.

Thousands of fleet operators already realize that the few pennies more it costs to install Blue Streak heavy-duty parts don't really matter when a deadline, a payload, and their own reputations are at stake. And savings in "down time" and operating costs due to Blue Streak's dependable performance are often many times the cost of the parts themselves.

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Thousands of sledge-hammer blows
torture tires and batter your trucks and trailers
every mile you drive with unbalanced wheels



The NEW Alemite "On-The-Vehicle" WHEEL BALANCER

**actually pays for itself with dollars
you save on repairs, maintenance, downtime**

Let's face it! You've kept trucks on the road when the tires were unbalanced. It's always that special schedule—or—"next time we get a breather we'll fix 'em all up." It's always something. No day is a good day for shoptime. That's the truck business.

But—while your trucks will operate with unbalanced tires—and make you look good on tight

schedules—are you making a full profit?

You aren't! Just remember what happens to unbalanced tires—and what pounding does to front axles, rear axles, bearings and frames. To say nothing of driver fatigue and danger to the load due to "shimmy" and road shock. It all adds up to this—you're losing money you shouldn't lose!

**NOW—Balance wheels quickly and completely—
right in your own shop—NO complicated attachments!**



One man does the whole job! There's no need to remove wheels, no attachments necessary. The entire wheel assembly is spun right on the vehicle, and the big, easy-to-read "Vue-Scale" Meter tells the story. You save time, labor and money. And your rigs stay on the road—the only place they can make you money!

Free Demonstration Proves it! Ask for a FREE demonstration that will PROVE to you how easy and quick it is for one man to balance the wheels of any piece of equipment you own. New method insures greater accuracy for cars, trucks, buses. Can be used inside or out, at night or in bright sunlight. Don't wait another day to find out how this new Alemite "On-The-Vehicle" Wheel Balancer can save you money! Write or phone your Alemite representative NOW for FREE demonstration!



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The OVERLOAD

E D I T O R I A L C O M M E N T

There's Only One Way to Ease That Squeeze

TWICE IN as many months we've been constrained to comment on deficit spending—in spite of deep personal roots in New England conservatism.

Two months ago we suggested it was a safe bet to gamble on the future for needed highway expenditures now. This time we suggest a similar pattern for city buses. In a single issue of the *Philadelphia Inquirer* one day last month there appeared three significant news items.

In the first one, Douglas Pratt, recently installed by National City Lines as president of the Philadelphia Transportation Co., outlined his proposals for a \$45 million improvement program for the city's ancient transit property. It would include 700 new diesel buses (in addition to 300 now being delivered) and 325 modern light-weight subway-elevated cars. The buses would replace street cars dating back to 1911 and still in daily use. The high-speed cars would replace some that have been in operation for 45 years, others 32 years.

On the same page was an item stating that the Philadelphia Electric Company's contemplated \$45 million generating plant would not be adequate; that sights must and will be raised. . . . On a different page was the announcement of a new Delaware River bridge being planned to supplement the existing three bridges in the area. It would cost between \$25 and \$60 million.

It doesn't take a very sharp eye to note that here are three proposals, all in the same price range. Yet from the people of Philadelphia came three very different reactions.

The item on the electric company caught primarily the attention of financial circles. The

people have enjoyed good utility service and are willing to pay a fair price for it.

The bridge news was a matter of delayed reaction. The people know that it may not come tomorrow or the next day. But they also know that eventually traffic will demand it, and that it will be paid for out of future earnings.

But the news from the transit property set off a chain reaction. Great day, the people shouted! Can it be that at some not-too-far-off date we may be getting new equipment? And with it, perchance, faster and more flexible schedules? Maybe even the reasonable assurance of a seat for at least the major portion of the ride?

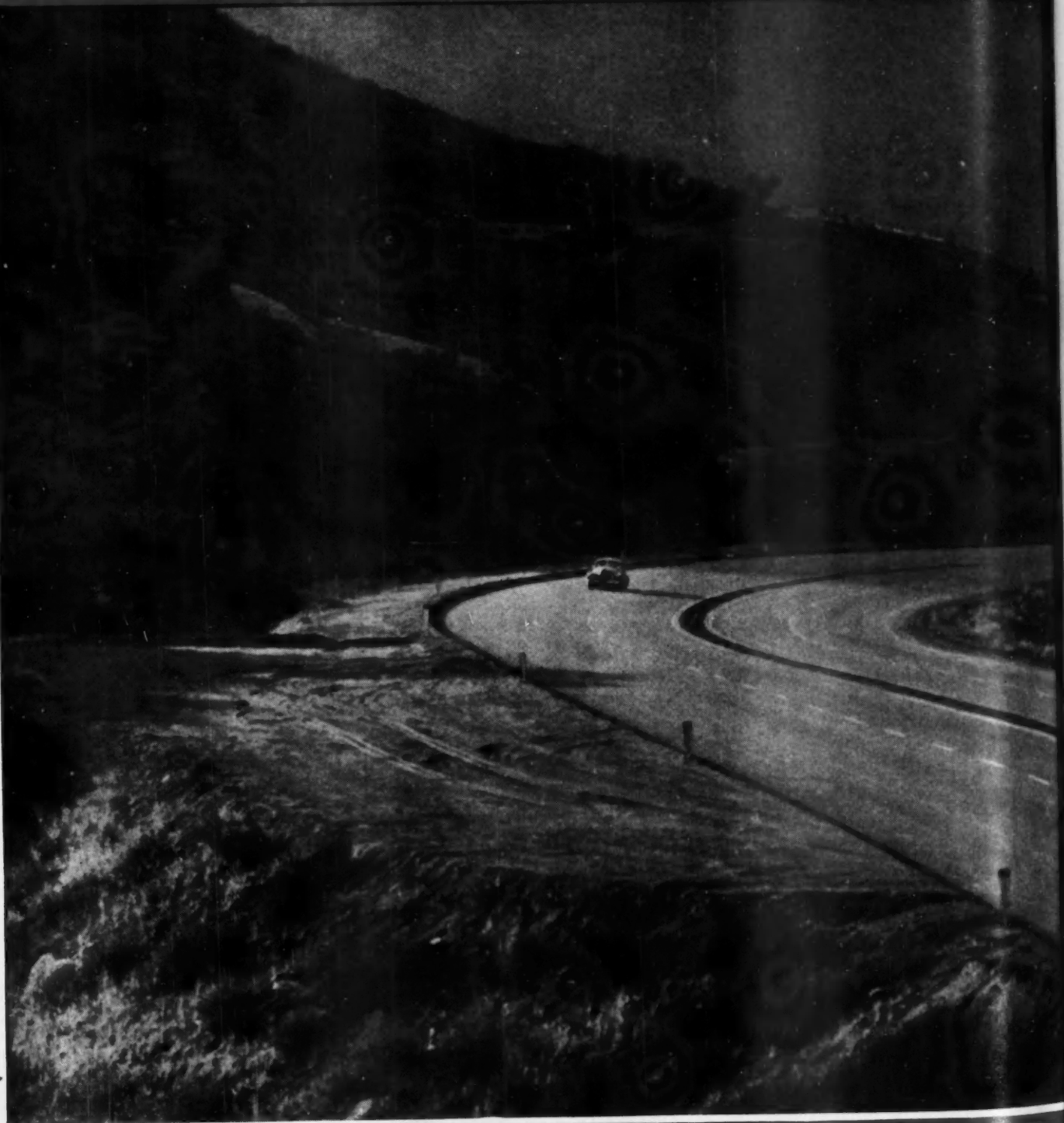
We'll be the first to admit that Philadelphia's transit system has been way behind most other cities, despite a most favorable concentration of downtown activities. But the problem is far from local. Different stages of antiquity and poor service have infected most transit properties in all parts of the country. The cry of "no new equipment 'til we have the cash" has become something of a national pastime in management circles.

But which came first, the chicken or the egg? If new equipment and better service make more money for the utility, the bridge commission and all of private industry, without raising prices, why can't it do the same thing for transit?

When people take the bus because it's faster, cheaper, more comfortable than private cars, success is in the bag. Then and only then will the people of Philadelphia and other cities like it listen to the words of the transit man's song: "Ease That Squeeze . . . By Riding a Bus."

Bart Pawson
Editor

GIVE BEARINGS THIS



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TEXACO STAR THEATRE
 starring
DONALD O'CONNOR
 or **JIMMY DURANTE**
 on television...
 Saturday nights, NBC



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At Your Service

TIMELY NOTES ON MAINTENANCE AND OPERATION

by MURRAY SIMKINS Managing Editor

Aluminum Tires???

YOU MAY find aluminum in your tires before long and it won't be necessary to remove it to avert a puncture. Aluminum yarn developed by Reynolds Metals Co. is presently being tested in both truck and passenger tires. It seems that the metal threads permit more rapid dispersion of the heat which forms under flexing at high speeds.

IBM for Maintenance Records

PAT VANDERCOOK of F. J. Boutell Service Co., Inc., tells us that he has installed an IBM system for his maintenance accounting and recording procedures. He says that the machine is not only more efficient than former hand methods, but surprisingly enough, actually cheaper. The system has been inaugurated only recently, and he's not ready yet to give us a complete run down of advantages. It is recognized, of course, that the speed at which he receives this maintenance information will be a major improvement and will result in better control of maintenance. Whereas his accounting staff formerly had the data back after 60 days, the IBM system will enable a complete return in something less than 20. That means better follow up and eventually lower maintenance costs.

Spicer Converter Gear Salvage

AN IMPROVED method of reconditioning Spicer Model 916 torque converter output gears is announced by Trans-Main Division, R. D. Fageol Co., Kent, Ohio. Output gears are now reconditioned by grinding out worn roller race surfaces and installing a hi-alloy bearing steel roller race insert. After the insert has been installed, the output gear is placed in a special fixture which assures concentricity of the roller race bore with the output gear rear bearing. Then the race bore is finish ground to

original factory specifications for size and surface finish. The reconditioned part, guaranteed for 40,000 miles or 1 year, is reputed to afford a saving of over \$40, compared to the cost of a new part.

International RD-501 Engine Idle

BUILD UP of carbon around the needle and needle seat in the RD-501 carburetor, may cause erratic idling, and in order to correct this condition as well as correct the necessity of very fine idle needle adjustments, a change was made in the forming of the point. The new needle has a 40 deg point rather than a 15 deg point and is carried under part number 58 776-R1. The 15 deg needle carries part number 122 567-R1.

Bus Men Discuss Maintenance

MAINTENANCE MEN from the transit industry met last month in Buffalo during the ATA Regional and Divisional Conference to participate in the round tables for which this association is so well known. They kicked around some highly controversial questions, came up with some interesting observations in some cases, and in other instances agreed to disagree. Here's what went on:

On Leyland Conversions—One bus company has installed 18 of the Leyland Fageol diesel engines in former gas-driven coaches, expects to convert 12 more. It was reported that where fuel cost was originally 5.7 cents per mile this engine has reduced this figure to 2.11 cents per mile—a saving of 3.69 cents. Operating conditions were exactly the same. It was reported that Fageol has 300 conversions out at this time. Advantages stem from the lower cost of diesel fuel as well as the high efficiency of this engine and the improved fuel injection system used on this design.

(TURN TO NEXT PAGE, PLEASE)

Now EVERY Fleet in America can afford **Leece-Neville** Alternators



PACKAGE DELIVERY, NEWSPAPER
LAUNDRY, DRY CLEANING, ETC.



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TRUCKS, ETC.



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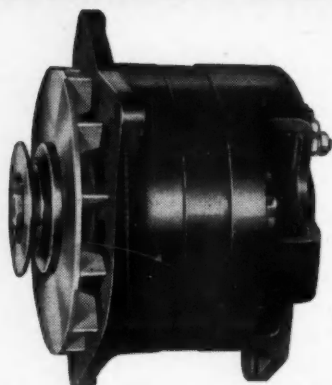
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The new Leece-Neville Alternator brings to fleets of passenger cars, light and medium trucks all the famous advantages that larger L-N Alternators have proved by performance for over nine years: charging current with engine idling, high output, low maintenance cost. Plus new, simplified bracketing. Yet the new L-N Alternator System actually *costs less* than "extra" output d. c. generators.

L-N ALTERNATORS FOR EVERY APPLICATION

There's a right L-N Alternator for every fleet unit. Capacities range from 60 amps for 6-volt systems to 180 amps for 12 volt. L-N Alternators will keep your fleet on the job and out of the repair shop.

Why not get the whole story? Just write The Leece-Neville Company, Cleveland 14, Ohio. *Distributors in principal cities . . . service stations everywhere.*

ON YOUR NEW UNITS
SPECIFY LEECE-NEVILLE EQUIPMENT,
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ALTERNATOR SYSTEMS • GENERATORS
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SWITCHES • FRACTIONAL HP MOTORS



At Your Service

Continued from Page 9

On Multipurpose Greases—One operator reported that he has extended mileage between lubrication from 1500 to 3000 miles upon switching to the new multipurpose grease. Wheel bearing lubrication had been extended from 40,000 to 70,000 miles. It was generally agreed that this type grease (1) provides better lubrication over longer periods of time, (2) reduces the volume of grease necessary for proper lubrication, (3) provides for simplified and a reduction of inventory, (4) adds a safety factor in that there is less chance of the mechanic using the wrong type grease for various jobs.

On diesel overhaul—While it is recognized that mileages are not adequate yardsticks for basing overhaul periods or that this is not a good comparison between properties, some of the figures given might prove interesting. Those properties operating under heavy traffic conditions generally find it necessary to overhaul diesel engines at 100,000 to 125,000 miles. Where conditions are more favorable this was given at 200,000 to 250,000 miles. The former fleetman indicated that his equipment idled 50 per cent of the time. Several fleetmen agreed that the wear rate ratio of 2½ to 1 for these types of properties would be generally recognized in the industry. Tests made by one fleet, for instance, showed that the engine was operating at 6200 rpm in city work, while only 2510 rpm in the suburbs. While this discussion provided little in the way of "take home" information, the interchange of ideas and data may have helped the maintenance men to re-evaluate some of their own operating data.

On tire mileages—Much the same can be said of tire mileage data. Some fleets are getting 40,000 miles on tires; others reported as much as 80,000. A change of sizes from the 10:00 to 11:00 on one particular bus increased mileage by 100 per cent, it was reported by a Canadian property. Most of the operators present reversed the front tires every 6000 miles. Some balanced the assembly both statically and dynamically. Generally, however, it appeared that where balancing is done, a static balance only is performed.

(TURN TO PAGE 12, PLEASE)

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I specified for economy—and got better drivers, to boot!

It's not often you can cut operating costs—and improve your operation, too. But I did it for my fleet by specifying full-depth AIRFOAM cushioned seats in all new trucks.

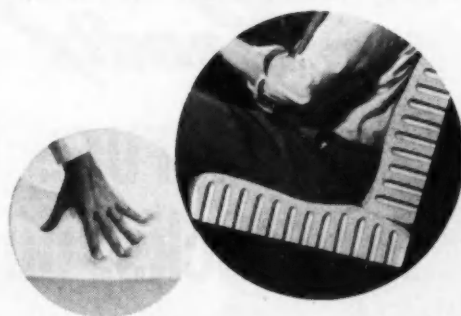
Sound too simple? Well listen to this:

The records show that full-depth AIRFOAM cushioned seats take the most phenomenal punishment—and come up smiling. I've proved it again and again when my own AIRFOAM equipped trucks have rolled up 150,000 miles and more—without costing one extra dime for repair or replacement of cushions OR covers!*

But that's almost chicken feed compared with what my *drivers* are saving me since they've been riding on AIRFOAM. They've never been so alert and alive and in such good spirits—and their driving records are the greatest things I've seen in ages!

If I ever stop specifying full-depth AIRFOAM cushions—it'll be because I suddenly hate to make money!

**From actual fleet records. For more, by the men who buy and drive, contact Goodyear, Automotive Products Dept., Akron 16, Ohio.*



Cross Section of Full-Depth AIRFOAM Seat Cushions. Note how AIRFOAM fills body-hollows—supports *all over*. And—with over half a million air cells to every cubic inch—AIRFOAM “breathes” with every motion, stays cool, fresh, resilient—is easy on covers and drivers!

Airfoam MADE ONLY BY **GOOD YEAR**
THE WORLD'S FINEST, MOST MODERN CUSHIONING

Airfoam—T. M. The Goodyear Tire & Rubber Company, Akron, Ohio

more miles per dollar!



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ELECTRIC FUEL PUMP for trucks, buses and passenger cars

Learn more about this new and improved fuel pump.
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Stromberg* Carburetor



At Your Service

Continued from Page 10

On cooling systems—With regard to prevention of cooling system corrosion, several properties reported the use of Perry filters. Others used the chemical descalers suspended in the cooling system. Various cleaning solutions are effective after the formation occurs, they indicated, if the accumulation is caught in time. Reverse flushing and treatment of the system was performed twice a year, fall and spring, it was reported by a majority of those present. Practically all properties are using a soluble oil or a similar inhibitor to reduce this build up. Water softener systems are necessary where the water in the vicinity is hard. Various ways of doing this job will be taken up in another article in CCJ.

On reclaiming parts—A considerable portion of the discussion at this meeting centered around salvage operations as practiced in several properties. One property reported success with repair and rebuild of (1) engine blocks, (2) camshafts, (3) alternator housings, (4) brake cams, (5) drive flanges, (6) spindles. Methods used consisted of metallizing, chrome plating and build up with weld. This became rather involved and sufficed to arouse new interest in saving money by restoring original parts to sometimes better condition than new ones. At least two articles are scheduled for CCJ on this subject for the near future.

This report covers only the highlights of this day-long discussion and cannot hope to cover all the experience reviewed. Operators who were not present can be assured that they missed some valuable help in running a bus fleet—and should attempt to participate in the next one.

Silicone Cuts Wear on Roads

SILICONE chemicals may play an important part in helping to prolong the life of highways. According to General Electric, tests conducted on highway pavement and bridge structures on the N. Y. State Thruway showed that concrete treated with SC-50 silicone chemicals resisted deterioration twice as long as untreated sections. Both the treated and untreated

(TURN TO PAGE 14, PLEASE)

COMMERCIAL CAR JOURNAL, July, 1955

OUT

WAIT,
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A MIN
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T. M. Reg. U. S.
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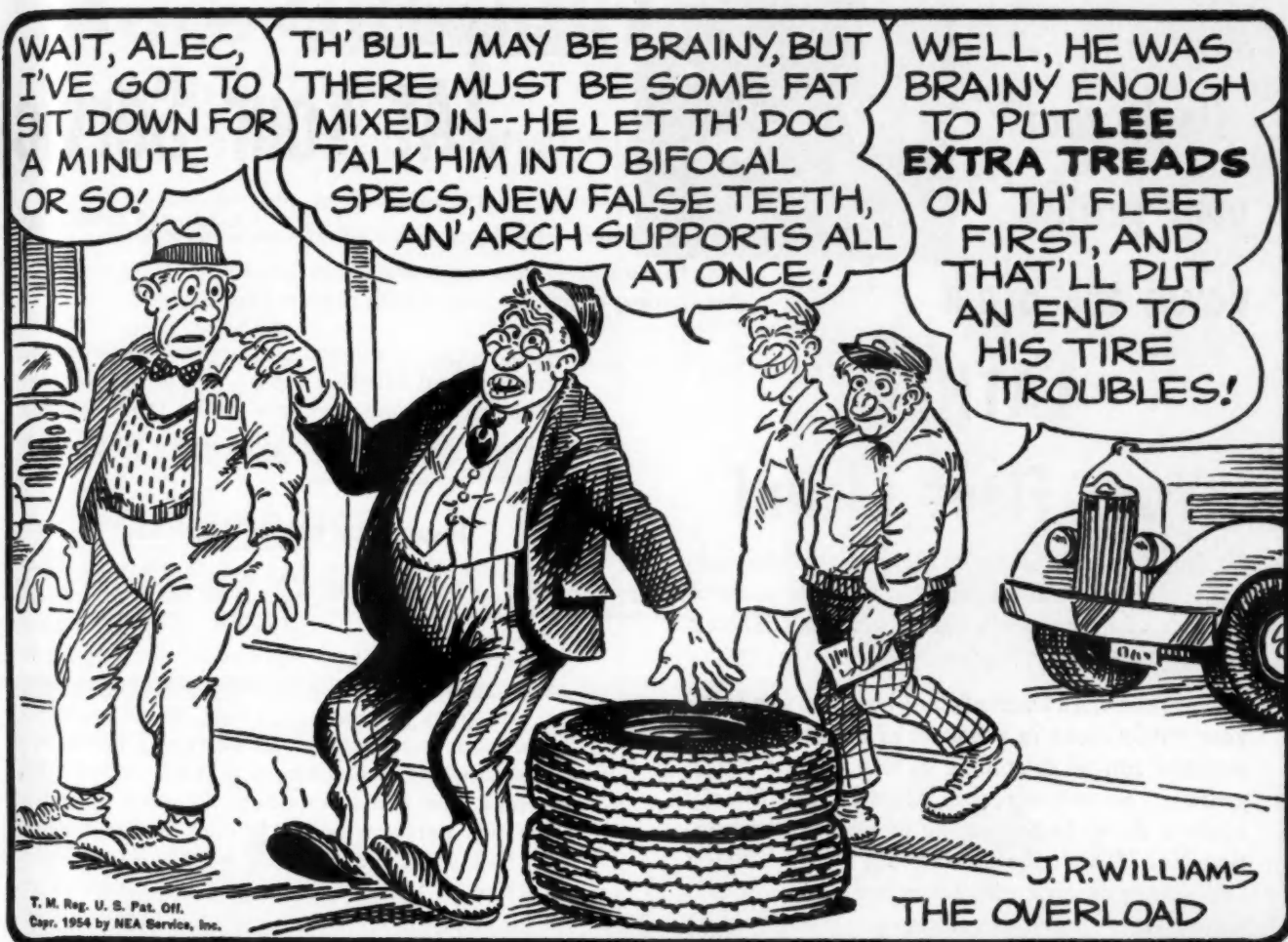
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OUT OUR WAY

BY J. R. WILLIAMS



UP TO 50% MORE ORIGINAL MILEAGE with Lee Super DeLuxe Extra Tread 5-Ribs

It's a fact—by actual test, the Lee Super DeLuxe Extra Tread 5-Rib gives you up to 50% more original mileage than a 100-level highway tire. Yet it costs only about 121½% more!

These tires are suitable for any wheel position, either truck or trailer. They're built with 29 extra Lee features that contribute to long wear, cool running, safety and increased recappability. And the service they'll give will show up as mighty pleasant reading in *your* mileage reports!

Available with All-Nylon or Rayon Cord

FREE!

8½" x 11" J. R. Williams color-cartoon shop posters . . . promoting correct truck-tire maintenance. You'll get a new one every month . . . order as many copies as you need.



Lee Rubber & Tire Corporation
Conshohocken, Pa.

Please send me each month for six months _____ copies of the current J. R. Williams tire-maintenance poster. Send also catalog information about Lee Tires for _____
(type of service)

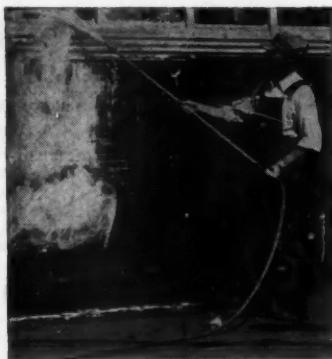
Company _____
My name _____
Street _____
City _____ Zone _____ State _____

Please attach coupon to your company letterhead.

LEE RUBBER & TIRE CORPORATION • CONSHOHOCKEN, PA.

COMMERCIAL CAR JOURNAL, July, 1955

**Don't pour
your profits
down the drain**



LATHER Your Fleet Clean!

Trying to slosh-clean vehicles with the old-fashioned bucket and brush is a needless waste of your valuable time and cleaning materials. There's a much better way. Listen!

With the modern Oakite Foam-Unit you can *lather* your trucks clean in a matter of minutes with no wasteful run-off or spilling of thin, watery detergents . . . no soap-streaked after-finishes. Simply apply a thick, sudsy coating of Oakite Composition No. 72 with the new Oakite Foam Unit—a little light brushing where necessary—then a cold water rinse—and your vehicles are ready for the road again, impressively clean and bright!

It's the *foam* that does it—thick, lathery foam that clings everywhere, allowing plenty of time for detergency to work . . . rich, penetrating suds that carry away every trace of road soil and grease in the rinse water. With the Oakite Foam Unit, the average truck can be clean as a whistle *in less than 15 minutes!* There's no doubt about it! Oakite Foam cleaning is the fastest, most efficient method there is to really "mechanize" your cleaning operation . . . slash fleet maintenance costs.

Why not call your local Oakite Technical Service Representative today for a free demonstration? See for yourself why fleet owners nationwide consult Oakite for economical cleaning results. Write Oakite Products, Inc., 26D Rector Street, New York 6, N. Y.

SPECIALIZED INDUSTRIAL CLEANING
OAKITE
MATERIALS • METHODS • SERVICE

Technical Service Representatives in Principal Cities of U. S. and Canada



At Your Service

Continued from Page 12

areas were subjected to severe, accelerated freezing and thawing tests. It was found that although silicone prevents water from soaking into the concrete, it did not make the surface slippery.

How to Up Engine Efficiency

WHEN AN engine does not develop its rated power, or when it "misses" or "skips" it is due to one or more cylinders not performing properly. Basically, a multi-cylinder engine is made up of a number of single cylinder engines, all of them working together as a balanced team to develop a specified power. Thus, a 300 hp six cylinder engine is actually six 50 hp engines connected together. If each cylinder does not perform properly, the power output will be low. If one cylinder is only 50 per cent effective, it will deliver only 25 hp instead of 50 hp and the total maximum power output of the engine will be lowered from 300 hp to 275 hp.

There are certain basic fundamentals that must be taken into consideration while isolating operating difficulties. If a multi-cylinder engine is to run smoothly and develop its full power, these requirements are a necessity:

1. All cylinders must receive uniform quantities of fuel at the proper time.
2. All cylinders must receive uniform quantities of air.
3. Fuel and air must be properly mixed in each cylinder prior to the actual combustion.
4. All cylinders must have equal compression.
5. Valve operation must be the same for all cylinders.
6. Injection must be balanced for each cylinder.
7. Fuel must be ignited at the proper time in each cylinder.
8. Each cylinder must be timed so its functions are performed in proper relationship to other cylinders.
9. All cylinders must have uniform provisions for the expulsion of exhaust gases.
10. All cylinders must be uniformly cooled.
11. All cylinders must receive adequate lubrication.

—from Clayton's Dynamometer Manual.

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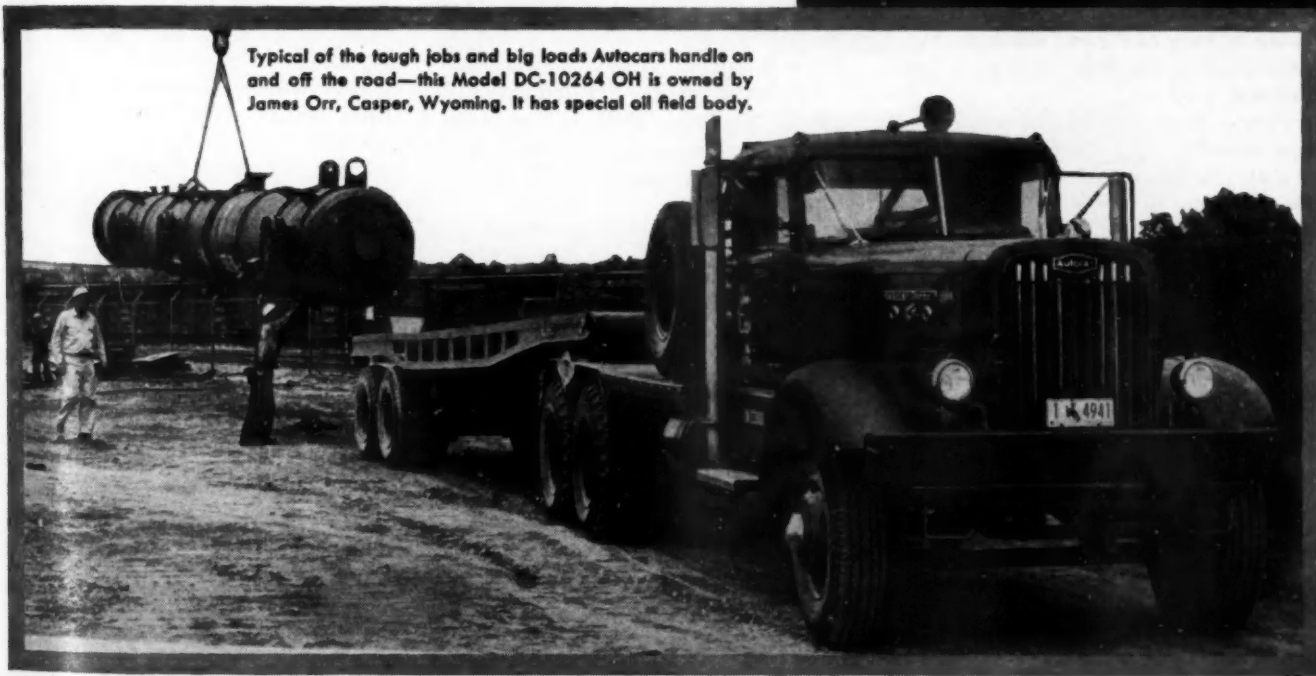
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More Strength with Autocar . . . Nut and Bolt Construction

- Higher strength, heat treated material used.
- Bolts are made to fill holes exactly to assure snug fit.
- Nuts and bolts are assembled with heat-treated lock washers under both head and nut for a permanent, tight installation.
- Nuts and bolts are fundamental to easy, low-cost maintenance.

**...Means more work,
longer life,
lower cost on the job**



Typical of the tough jobs and big loads Autocars handle on and off the road—this Model DC-10264 OH is owned by James Orr, Casper, Wyoming. It has special oil field body.

HAVE you seen the Autocar "Nut and Bolt" demonstration? You have if you've seen Autocars on the job—on the tough jobs, everywhere!

Autocar Quality starts with "Nut and Bolt" construction . . . the use of nuts and bolts in the assembly of all Autocar Trucks. It's typical of the way Autocars are quality engineered to exact operator requirements . . . for more work . . . longer life.

Find out how Autocar cuts transportation costs . . . for years. See your Autocar representative without delay.

AUTOCAR TRUCKS

AUTOCAR DIVISION OF THE WHITE MOTOR COMPANY, EXTON, PA.

AUTOCAR DIVISION

The White Motor Company, Exton, Pa.

Send me facts about
Autocar "Nut and Bolt" Construction

Name

Position

Firm

City Zone State

3G



Laugh it off!

Parts Clerk: "I just heard why Solomon had a thousand wives."

Maintenance Steno: "Why?"

Parts Clerk: "Well, he figured that when he came home at night at least one wouldn't complain of a headache."

CCJ

Auto Parts Clerk: "I'm afraid I'm going to have to divorce my wife. Not only is she a big fibber, but she's unfaithful, too."

Parts Room Manager: "How do you know?"

Auto Parts Clerk: "Well, she told me she had spent the night with her friend, Margie, when she came home early this morning."

Parts Room Manager: "Well, how do you know she was fibbing?"

Auto Parts Clerk: "Because I spent the night with Margie."

CCJ

Steno May: "Honey, I hate to hear that your fiance is a confirmed alcoholic. If you knew he drank, why did you get engaged to him?"

Steno Fay: "I didn't know he drank until he showed up sober one night."

CCJ

Perplexed Papa: "Why were you kissing my daughter in that dark corner last night?"

Traffic Rate Clerk: "Now that I've seen her in daylight, I sort of wonder myself."

CCJ

Freight Claim Steno: "I've been here for over a week now, but the men in the office keep looking at my legs every time I go to the water fountain for a drink."

Old Timer Steno: "Never mind, honey. If you want to climb to success you'll just have to get used to the stares."

JA EVER HEAR THE STORY ABOUT THE TWO BOLL WEEVILS? IT GOES LIKE THIS. ONE WORKED HARD AND GOT TO BE A BIG SHOT. THE OTHER DIDN'T AND REMAINED THE LESSER OF TWO WEEVILS.

CCJ

Traveling Freight Auditor: "I'd like to see some articles of lingerie, please."

Saleslady: "Here are some lovely items. Frankly, this is the only place you can touch these for anything near the price."

CCJ

Traffic Dept. Steno: "Honey, I can't wait until tomorrow night. I've got a date with that smooth new O.S. & D. Clerk. They say he's a gentleman from the word 'go.'"

Claim Dept. Steno: "Don't believe all your hear, Dearie. I had a date with him last night. So far as I'm concerned, he's not a gentleman from the word, 'Stop!'"

"Cici Jay"



Parts Salesman: "I started to write a drinking song once."

Sparkplug Mfr.: "What happened?"

Parts Salesman: "Darn it, I could never get past the first two bars."

CCJ

Shop Foreman: Mac, I hear you went out and bagged a couple of squirrels on your hunting trip, yesterday."

Speedometer Specialist: "Yes, sir. First game I ever shot. I'm mighty proud."

Shop Foreman: "You have a right to be proud, son. Why don't you take the squirrels to a taxidermist and have them mounted?"

Speedometer Specialist: "Well, I might take them to be stuffed, but nix on that business of having them mounted. I think just having them shaking hands will be enough."

CCJ

Truck Mechanic: "Shay, doll girl, I've been kidnapped."

Sweet Patootie: "Whaddye mean, kidnapped?"

Truck Mechanic: "Well, I jush looked in ma bed a lil' while ago and I was gone."

CCJ

Safety Sadie: "While I was out to lunch I bought a tube of the new kissproof lipstick everyone's talking about. Wonder if it comes off very easily?"

Catty Cora: "Not if you put up a good fight."

CCJ

FREIGHT CHECKER: "WHEN I MARRIED YOU, I THOUGHT YOU WERE AN ANGEL."

LITTLE WIFEY: "SO THAT'S WHY YOU NEVER BOUGHT ME ANY CLOTHES!"

Resume Work

COMMERCIAL CAR JOURNAL, July, 1955

HENRY A. GRIESE
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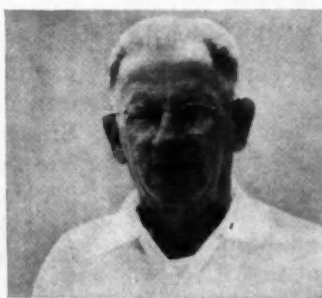
COMMERCIAL C

"DULUX" enamel on Griesedieck Beer Trucks

reflects high-quality standards!



HENRY A. GRIESEDIECK, President, is proud of the bright, modern "Dulux"-finished fleet of 510 trucks that represent his firm in a 10-state distribution area. Progressive management has enabled the historic brewery to quadruple its delivery fleet in the last 20 years.



DAN B. FITZHENRY, Shop Foreman, likes the free and easy way "Dulux" sprays out—and the gleaming, rugged coating when it dries. He finishes truck bodies and upper cabs in "Dulux" White and lower cab body in "Dulux" Red. Chassis are "Dulux" Black; roofs, aluminum.

To make their fleet do a good job of advertising traditionally fine *GB quality*, Griesedieck Brothers Brewing Company of St. Louis needed a *top-quality finish*. It had to withstand 10-state deliveries in temperature extremes, industrial fumes and traffic—and still look attractive. GB decided on Du Pont "Dulux" Enamel—now use it for their entire fleet.

"Dulux" stands up to extreme weather . . . resists corrosion that can put trucks back in the paint shop before their time . . . bonds pigment with tough, yet flexible, resins that absorb hard knocks. GB finds that "Dulux" keeps trucks out of the shop and on the road longer. And it gleams like new at every washdown!

So take a tip from a great brewery that knows the importance of making a good public impression. Keep your fleet looking its best always and in all ways with durable Du Pont "Dulux" Enamel. E. I. du Pont de Nemours & Co. (Inc.), Refinish Sales, Wilmington, Delaware.



THE **e**CONOMY **d**ESIGN AND **m**AINTENANCE of Aluminum Tank



Light Weight Metals Up Payload, Reduce Operating Costs

By E. P. White, Aluminum Company of America

FOR THE PAST several months, the actual operation economy of aluminum tank trailers has been under examination. One statement can be made. There are as many different answers to this question as there are people operating tank trailers. It is possible, however, to make a few general observations which are reasonably accurate.

First, a steel combination cost can be assumed thus:

\$7500.00 for 7000-gal capacity steel tank trailer.

\$8000.00 for tractor to haul trailer.

\$15,500.00 for steel combination.

Second, an aluminum combination cost will be approximately:

\$11,000.00 for 7700-gal capacity aluminum tank trailer with the same gross weight as the steel tanker.

\$8000.00 for tractor to haul trailer.

\$19,000.00 for aluminum tanker combination.

Annual revenue for a 7000-gal capacity steel tanker is reported as approximately \$40,000.00; therefore, the annual revenue for

the aluminum combination should be \$44,000.00.

Three View Points

Conclusions to these figures are obvious:

1. Added revenue should pay for extra cost of the aluminum unit in three years or less (in fact, less than one year for the example given), allowing for variations in equipment price and operation costs.

2. Approximately 10 per cent more payload can be carried for the same or less operating cost. (The number of units in the fleet are the same). In addition, it must be remembered that fuel, tire, and other costs will be less with aluminum units when traveling empty. Thus, additional operation savings can be realized.

3. If operations cannot be conveniently expanded, the same gross payload can be carried as before with 10 per cent less units of capital equipment. Thus, the over-all operation profits increase

These papers were excerpted from material presented at the National Truck Tank Carriers annual convention in San Francisco in May

in direct proportion to savings in labor, maintenance, operation, and the depreciation costs of fleet units eliminated. Furthermore, general maintenance, painting, and other charges will be less with aluminum construction.

Operational Profits

Briefly then, it is possible to increase operational profits in two ways by using aluminum. First, the operator carries more payload and, thus, has more money coming in; or, second, the same payload can be carried with ultimate profit through operation costs.

Another approach to the economic picture is found in average revenue on a per-gallon per-day basis. Figures are reported varying from one cent per gallon per day to two cents per gallon per day. It is interesting to note that this estimate approximates previous figures when computed for a 300-day operating year. Using a hypothetical 7700-gal "semi," daily profit ranges from \$7.00 to \$14.00 per day. Yearly profits then run between \$2100.00 and \$4200.00 per year.

Unfortunately, there is a limit to useful statistics, since hauling operations vary widely from state to state and carrier to carrier. However, it can be said, in general, that aluminum equipment offers additional profit for almost any operator wherever he may be.

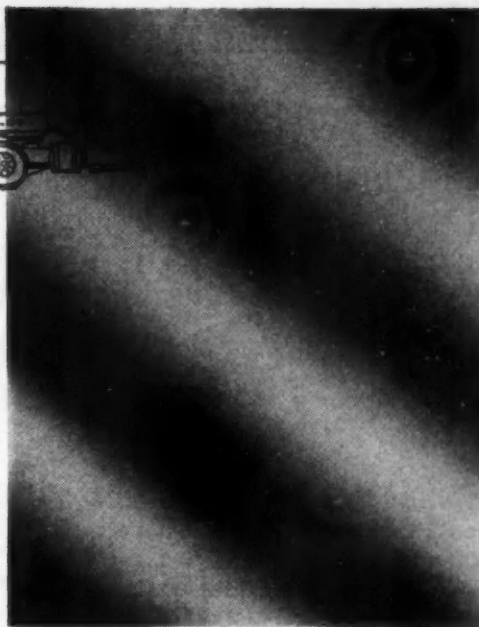
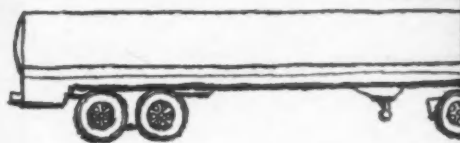
Regarding modern facts and figures, many people do not realize

that an aluminum trailer can hold more than a steel (tank truck combination). Such is being operated at a tank-to-tanker fuel at a gallon. Total is 8100 lb for 7500 gal.

One concern the east is operating tank-type bulk dry cement. lb or 30 per weight was weight constant saving was a load, increased to 100 barrel

Year-Round

The second seasonal cargo units are only. In this case could be used products in the liquid fertilizer the summer season should be for carriers during the must either use for their them up" for goes on other be found for in aluminum.



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that an aluminum tank semi-trailer can legally carry 300 gal more than a set of steel "doubles" (tank truck and tank trailer combination). Such an aluminum unit is being operated today. This aluminum semi carries aviation fuel at a tank-to-cargo weight ratio of 1.06 lb per gallon or regular motor fuel at a ratio of 1.08 lb per gallon. Total weight for the unit is 8100 lb for a legal capacity of 7500 gal.

One concrete delivery firm in the east is operating 18 aluminum tank-type bulk units for handling dry cement. Approximately 3000 lb or 30 per cent of the vehicle weight was saved with light weight construction. This weight saving was all returned in payload, increasing capacity from 90 to 100 barrels of cement.

Year-Round Use

The second advantage of additional cargoes for aluminum tank units are only now being explored. In this case, aluminum tankers could be used to haul petroleum products in the winter season and liquid fertilizer solutions during the summer months. This operation should be particularly suited for carriers who handle fuel oil during the heating season and must either find a warm weather use for their tankers or else "lay them up" for summer. As time goes on other alternate loads may be found for off-season haulage in aluminum.

Some Considerations in the Design Requirements of Aluminum Tanks

By Don G. LaRue, Kaiser Aluminum & Chemical Sales, Inc.

THE PROBLEMS encountered in design construction and maintenance of aluminum tanks are almost identical to the problems which have been met and solved in the development of steel transports. The principle difference then between steel and aluminum tanks is the obvious one—the difference in the material of construction.

Let us explore for a few minutes how this difference affects design of aluminum tanks. Aluminum alloys will weigh one-third as much as steel. They have tensile properties approaching those of mild steel and are readily weldable.

Aluminum alloys have a modulus of elasticity roughly one-third that of steel. In other words, the deflection of an aluminum member under a given load will be three times as great as the deflection of an identical steel member under the same load.

To obtain the same stiffness as steel, the thickness or gage of the aluminum part or tank component must be increased. Designers follow a simple rule of thumb—in-

crease the gage or thickness 44 per cent. The aluminum part then, has the same stiffness as the steel part it replaces, and the weight of the aluminum part is only half as much as steel.

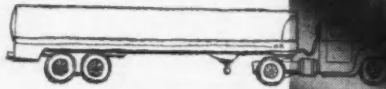
New Alloys

Recently, the aluminum industry has developed some excellent new high-strength welding alloys which are designated 5086 and 5154. These new materials use magnesium or a combination of magnesium and manganese as alloying elements. To extend our comparison, these new high strength alloys would occupy a position similar to high tensile steels.

I should point out that the tank manufacturers who have converted to these new high strength alloys have reduced tank shell gages by approximately 10 per cent below those used on the 5052. Not only has this achieved a slight reduction in weight of the vehicle but it appears that the high strength alloys have reduced minor maintenance problems.

(TURN TO PAGE 150, PLEASE)

... Aluminum Tank Trailers



Interior and Exterior Cleaning of Aluminum Tank Trailers

By R. F. Hafer, Reynolds Metals Co.

THERE ARE several requirements that a cleaner must have to be suitable for cleaning the interior of aluminum tank trailers.

1. The cleaner must be able to remove the large majority of materials carried, quickly and effectively.
2. It must be economical.
3. It should be readily adaptable to mechanical techniques which aid in the overall cleaning process.
4. It must not leave residues which could contaminate the products which are carried.
5. It should not attack aluminum.

Cleaners

Alkaline cleaners generally fit the above requirements the best. Alkaline cleaners are effective in removing most petroleum products, vegetable fats and oils, and dairy products, and are generally less expensive than other types of cleaners.

They are not generally suitable in cleaning asphalt and tars, and in general, solvent cleaning is the most efficient method for removing residues of materials of these types.

Alkaline cleaners can be used with a wide variety of equipment. The use of rotary spray equipment is recommended in cleaning the interiors of aluminum tank trucks since the spray pressure tends to mechanically loosen residue from the tank walls, decreasing cleaning time.

Spray equipment is not expensive. It is often available from reputable cleaner manufacturers on a rental basis, and can be de-

signed in either portable or stationary systems.

Spray Equipment

Spray cleaning equipment consists of:

1. A holding tank large enough to hold sufficient solution to accommodate the required flow of solution through the nozzles and capable of treating and holding the solution at the desired temperature, usually about 180 deg F.
2. A pump capable of supplying from 60 to 70 gal of solution per minute at 75 to 100 psi.
3. A system of rotating nozzles properly designed to cover effectively all areas of tank interior.
4. A return flow system to the holding tank.

Alkaline cleaners can be formulated to be very free rinsing and therefore do not tend to leave a residue which could be deleterious to the materials carried in the tank.

Most alkaline materials attack aluminum quite rapidly, particularly at the temperatures required for effective cleaning. However, alkaline cleaners can be formulated and inhibited so that under the proper cleaning conditions they will not attack aluminum.

No matter how these cleaners are inhibited it is of the utmost importance that they be rinsed very thoroughly following the actual cleaning cycle.

Whenever water soluble materials are carried in aluminum tank trailers the use of steam as a cleaning agent is practical. Steam can also be used as a sterilizing media.

The problem of cleaning the ex-

terior of aluminum tank trailers is somewhat different. Such things as exhaust gases, all forms of road soils, oxidation, and road deicing salts must be removed.

Acid cleaners, alkaline, and solvent emulsion cleaners are all effective in maintaining the exterior surfaces of aluminum. However, where particularly stubborn soils are encountered it may well be that a combination of all three types of cleaners may be necessary.

The solvent emulsion cleaners are particularly effective in removing exhaust gas residues and road tars. Acid cleaners prove very effective removing heavy oxide films which tend to dull and discolor aluminum.

For general cleaning the mild alkaline cleaners are effective and generally somewhat less expensive than the acid or solvent emulsion cleaners. All can be applied with the old long handled brush, or with spray-brush or spray-swab units.

As in the case with cleaning tank interiors it is important to rinse the trailer exterior thoroughly with water to remove all the excess cleaner and residue.

Deicing Salts

We suggest that during the winter months that tank trailers be washed down with water frequently, paying particular attention to spots where the salts could be entrapped.

For complete protection we recommend that the trailers be coated with a standard automotive undercoat or with a chloride resistant paint.



ADEQUATE supervisors, departments, coming increasing transportation in pre-employment developed, highly chiefly means of de

Establishing the training industry is a constant function of the committee for Motor Training. An organization of the committee has jurisdiction of service to the transportation industry different from top management through mid-leveling classes supervisors prior to the committee, the extent of the July 1, 1954, men attended more than 10,000 employees, h

Many Benefits

With experience cooperating the National benefits, which a line supervisor industry's n



You and the Fleet Supervisor Training Programs

ADEQUATE TRAINING of fleet managers, supervisors, department heads and other personnel is becoming increasingly important to the highway transportation industry. Unlike other industries, in which pre-employment formal training programs have been developed, highway transportation must at present rely chiefly on on-the-job-training programs as a means of developing trained staffs and management.

Establishing and carrying out the training courses needed by the industry is one of the most important functions of the National Committee for Motor Fleet Supervisor Training. A joint project of 16 organizations, the National Committee has just completed 10 years of service to the motor transportation industry, now offers seven different courses. These range from top management conferences through middle-management training classes to courses for driver supervisors. From a single course prior to the formation of the Committee, the program has grown to the extent that in the year between July 1, 1954, and June 30, 1955, a total of 1408 fleetmen attended classes under the program. In all, more than 10,000 fleetmen, responsible for some two million employees, have participated in the program.

Many Benefits

With experienced fleetmen and equipment suppliers cooperating with educators, courses conducted under the National Committee's program offer you many benefits, whether you are a front-office executive or a line supervisor. The courses are keyed to meet the industry's needs, are revised periodically as these

needs change or as new industry developments occur.

Courses are conducted by colleges across the country using experienced fleetmen, nationally recognized authorities from suppliers' staffs and faculty members as speakers.

Subject matter varies from course to course, with the program including discussion of practical maintenance procedures, accident-prevention theory and practice, equipment selection and utilization, principles of effective supervision and consideration of new developments.

If the courses offered nothing more than an opportunity for gathering information, the time spent at them would be worth while. But the courses are more than sources of information. Away from the pressure of his routine job, a fleetman has a chance to look at his problems in perspective, to offer them to the other members of the class for possible solution, and to gain mental stimulation towards developing new ideas or making use of ideas already avail-

able. Returning to his job with a fact-filled notebook, he carries with him an added spark of interest and a knowledge that he is moving forward in the mastery of his job. Many fleet managements feel that these benefits to supervisors justify sending the men to the courses more than once, so that at times the same supervisor may attend a course two or three times.

Early Courses

With seven different types of courses now available, there has been considerable progress since the earliest

(TURN TO NEXT PAGE, PLEASE)

EIGHTH OF A SERIES

This report on the program of the National Committee for Motor Fleet Supervisor Training is the latest of a special series devoted to organizations serving the highway transportation industry. Next month the activities of a group of manufacturers' organizations will be described.

You and the Fleet Supervisor Training Courses

supervisor training courses. These got underway back in 1939 when Professor Amos E. Neyhart of the Institute of Public Safety of Pennsylvania State College (now University) was asked to set up a course by a group of fleetmen, led by J. Willard Lord of Atlantic Refining Co., Earl Hess of Sun Oil Co., and Robert I. Gailey of Supplee-Wills-Jones Co. This first course was an adaptation of the high school driver training course which Professor Neyhart had developed. Twelve fleetmen were invited to attend. They liked it, and the course was repeated at Penn State for the next four years. At that time, through the influence of Norman Damon, the Automotive Safety Foundation made an initial grant and has continued to contribute to the financial support of the national program. It was at Mr. Damon's suggestion that the present National Committee was organized in 1945.

Joint Project

The National Committee for Motor Fleet Supervisor Training is now a joint project of 16 organizations, working in cooperation with some 50 of the nation's colleges and universities. Secretary of the

Committee is Professor Neyhart, Administrative Head of the Institute of Public Safety of The Pennsylvania State University. Members of the Institute's staff are also staff members of the committee.

Members of the National Committee are: American Automobile Assn., American Taxicab Assn., American Trucking Assns., Assn. of Casualty and Surety Companies, Automobile Manufacturers Assn., Automotive Safety Foundation, Center for Safety Education of New York University, Farm Bureau Mutual Auto Insurance Co., Institute of Public Safety of the Pennsylvania State University, Markel Service, Inc., National Assn. of Automotive Mutual Insurance Companies, National Assn. of Motor Bus Operators, National Automobile Transporters Assn., National Highway Users Conference, National Safety Council and the Private Truck Council of America.

Fleet operators play an important part in guiding the program, acting on sub-committees which establish and periodically revise the courses. When a problem develops within the industry, it may be referred to the National Committee for review. If the solution appears to lie in analysis, research and ed-

Here Are the Available Courses

Seven courses are now offered to fleetmen under the National Committee's program. Courses are designed to provide practical instruction in efficient methods, information on current developments and idea-provoking inspiration.

MAINTENANCE—For maintenance supervisors. Topics include vehicle selection, maintenance procedures for engines, cooling systems, electrical and fuel systems, clutch, transmission, axle, and brakes; use of instrumentation, planned maintenance systems and selection, training and supervision of personnel.

FLEET SUPERVISORS—For owners, managers, department heads and others responsible for safe and efficient fleet operation. Course covers selection, training and supervision of drivers; award plans; driver attitude; reporting, recording and analyzing of accidents; public relations and basic management.

REFRESHER CONFERENCE—A sequel to the Supervisor course, aimed at keeping supervisors up to date. Participants discuss their own problems, covering such topics as accident analysis, human relations, effective communications, training employees, and engineering and research developments as they affect the fleet supervisor.

EFFECTIVE FLEET OPERATION—Similar to the basic supervisors' course but tailored to the needs of small fleets. Classes are generally scheduled in the evenings in areas convenient to fleetmen. Topics include management practices, maintenance, supervision.

DRIVER TRAINING—Designed for those responsible for on-the-job driver training, from presidents to senior drivers. Material includes selection, testing and training of drivers, teaching aids, role of the driver-trainer, behind the wheel training and testing, and the driver's relation to maintenance and cargo loss.

TERMINAL MANAGEMENT—For terminal managers, dispatchers, warehouse foremen and other terminal supervisors. Material includes accident and loss prevention, dispatching and routing practices, equipment care, training of drivers and dockmen, fire prevention, incentives and human relations.

TOP MANAGEMENT—For top-level fleetmen, these courses vary in content, considering problems at policy-making level. Material discussed includes public relations, industrial relations, personnel selection, training and reduction of turnover. One and two-day conferences are held, with guest speakers and fleetmen participating.

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, July, 1955

ucation, a sub-committee is set up to prepare materials and conduct a pilot or experimental course.

Each sub-committee is composed of experienced fleet operators selected on the basis of their interest in the problem and their ability in the field in which it lies. A staff member works with the group in preparing materials and in conducting the initial program. Success with this initial program generally leads to it being made available on a national basis through cooperating colleges and universities.

Regional courses are conducted by the colleges and universities at which they are held, with the staff of the National Committee providing course materials, suggestions for promoting the courses and assistance in actually conducting the courses. In the past year some 54 colleges and universities received a booklet outlining detailed suggestions for organizing and promoting fleet supervisors training courses as well as copies of the material that was used to promote the courses held at Penn State. In addition, a member of the educational staff participated in 50 of the 54 courses conducted across the country during fiscal 1955.

Colleges cooperating in the program are listed in the accompanying chart. Most of these will set up a specific course if there are sufficient requests for it from fleetmen in their area. Similarly, colleges not now participating in the program could be interested in it if sufficient need and interest were displayed by members of the industry in their area.

Courses Available

Brief outlines of the various courses now conducted under the program are given in the accompanying chart.

THE MOTOR FLEET SUPERVISOR COURSE is designed for all levels of supervision and management. It stresses management control of driver performance through Selection, Training, Supervision, Records, and Incentives. Class members are provided with text material entitled "Driver Training and Accident Prevention."

THE TWO-DAY CONFERENCE for fleet personnel is designed to bring supervisors up to date on new developments and is primarily for the fleet supervisor
(TURN TO NEXT PAGE, PLEASE)

Here Are the Cooperating Colleges

University of Alabama	Northeastern University	University of Oklahoma
University of California	University of Michigan	Oregon State College
Berkeley & Los Angeles	Michigan State College	Pennsylvania State University
University of Denver	University of Minnesota	University of Tennessee
University of Florida	Montana MTA	University of Texas
Georgia Institute of Technology	University of Nebraska	Texas A & M College
University of Georgia	Rutgers University	University of Houston
Northwestern University	New York University	University of Virginia
University of Illinois	Rochester Institute of Technology	University of Washington
Purdue University	Syracuse University	University of Wisconsin
Iowa State College	Cornell University	University of Toronto
Tulane University	University of North Carolina	University of British Columbia
University of Maryland	University of Akron	Hawaii Employers Council

Fleet Supervisor Courses

who has attended a Motor Fleet Supervisor Training Course or has had wide experience in the field. The Conference makes use of group discussions rather than formal presentations, with participants pooling their knowledge and experience in solving problems. Topics vary from year to year and from conference to conference. Subjects discussed include: human relations, conducting the employment interview, handling details at the scene of an accident, conducting driver meetings, and making communications effective.

EFFECTIVE FLEET OPERATION courses were recently established to meet the needs of smaller fleets and scattered units of larger fleets. Subject matter covers many phases of fleet operation and may be varied to meet the needs of particular groups. Courses are conducted at colleges and universities around the country, with classes meeting one or two nights a week for from 10 to 12 weeks.

MOTOR FLEET MAINTENANCE COURSES are designed for maintenance supervisors. Originating in 1946 on the campus at The Pennsylvania State University, this course proved to be one of the most successful and popular. The current program, made possible by a grant in funds to the National Committee by the White Motor Company is greatly expanded over the first courses. It is now designed to: (1) Improve the management and supervision of motor fleet maintenance shops; (2) Bring maintenance supervisors up to date on modern shop techniques and newest engineering developments; (3) Train maintenance supervisors in methods of increasing efficiency and reducing costs of vehicle maintenance and operation. In addition to a standard five-day course at certain colleges and universities, course materials and teaching instructions are made available at other colleges throughout the country.

DRIVER-TRAINER COURSES have been developed for driver-trainers and for those being prepared for this work. The course is divided into four units, covering: (1) The industry's status; the place of the driver-trainer in the organization and his relation to the divisions of the business he will contact in his work; (2) The role of the driver-trainer as a teacher and methods of filling the role; (3) General coverage of the many details which a driver should know about his job; (4) Summary of the course including methods of combining attitudes, interest and training to achieve outstanding performance.

TOP MANAGEMENT CONFERENCES consider problems on the policy-making level. Subjects of the conference are generally matters of current top-management interest and have included discussions of the need for training, methods of placing personnel most effectively from youth through retirement age, how to reduce employee turn-over and practical public relations.

THE TERMINAL OPERATIONS COURSE has

been recently developed for training terminal managers, dispatchers, warehouse foremen and those responsible for local drivers as well as others interested in loss prevention at the terminal level. The course covers a program of efficient terminal operation including cargo loss and its effect on operational costs; selection, training and supervision; accident and fire prevention and methods of making an effective program work.

Other Functions

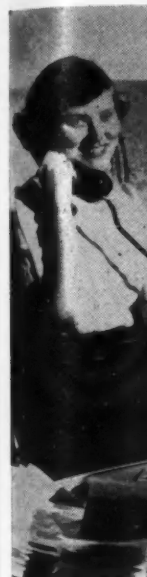
While the National Committee is known primarily for its activity in connection with the college training courses, it has several other functions.

As part of the program the staff has the responsibility of working with sub-committees to review material on driver selection and training, develop new material on this subject, and make the material available to interested agencies. It is also planned to establish a research program, with a full-time director who will be responsible for reviewing and assembling the results of research studies, coordinating use of this material in the Committee's program, and serving as a clearing house for information about research affecting the commercial transportation field.

As the industry matures, it is reasonable to expect that it will turn more and more toward educational institutions for assistance in the solution of its problems. At present, relatively few schools and colleges have programs geared to supply the trained leaders and middle-level supervisors needed by highway transportation as the nation's second largest industry. As this need grows, the National Committee for Fleet Supervisor Training will attain increasing importance.



"And in recognition of the principles we learned in the fleet training courses, we are recommending to the board that deadwood be cleaned out. My resignation is attached!"



Switchboard operator connects phone calls. Men can talk.

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COMMERCIAL



Switchboard operator also tends receiver, connects phone calls for direct messages. Routemen can talk to any department in laundry

Radiotelephone pays off in better contacts with salesmen and in elimination of backtracking. This laundry fleet also enjoys added revenue from selling the service to others

By William Palmer

Two Way Radio Can Pay in Small Fleets

WITH ONLY a small delivery fleet, G. W. Howard and H. R. Whitaker, president and secretary-treasurer of Ormond Laundry in Fayetteville, North Carolina, cast about for an economical and practical means of installing two-way radiotelephones in their trucks. The solution was to obtain a restricted radiotelephone operator's permit for maintaining a "domestic public land mobile service" station.

This makes the laundry a public utility, licensed by the Federal Communications Commission to offer for-hire communication service between the station and mobile units (trucks or cars), between two mobile units, or between mobile units and their home offices.

The laundry was assigned a frequency in the band between 152-162

(TURN TO PAGE 144, PLEASE)

Mobile unit installed in Ormond Laundry truck. Transmitter is in "drawer" that slides out of case, can be locked in place



High Speed Service Demands



By **L. P. Baker**, Supt. of Equipment
Quaker City Bus Co., Philadelphia



Home-made bus washer enables two men to wash all 35 of the fleet's buses in an 8-hour shift, folds against wall after use

Road failures and mechanical delays can't interfere with schedules when people want

Good inspections and PM up engine life to 330,000 miles



▼ DON'T OVERLOOK the small bus fleet when it comes to efficient maintenance practices. Small operators have got to be good. There just isn't the time or the funds to permit slack operation. Especially in such a high speed service as ours, we need top grade attention to all of the many factors that would effect delays enroute. That's why PM, safety inspection, driver training and component parts overhaul are kept to high standards at Quaker City.

We operate 35 coaches between Philadelphia and New York nearly 2½ million miles per year under severe schedules. We make the 94 miles between terminals in two hours. While 90 per cent of this operation is over a modern turnpike, we do suffer the usual traffic headaches in the outskirts of each

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COMMERCIAL

ds High Class PM



Careful brake balance improves life. 130,000 miles, fronts; 146,000 rears



Shop-designed boring bar permits quick and accurate boring of bearing housings at slack adjuster and at anchor pin holes for new bushings.

Inset shows bar reboring spindle bushing. Below. Author Baker calibrates and checks tachograph on shop-made machine. Tach charts are placed on board in drivers' room above their names as a means of cultivating driving safety

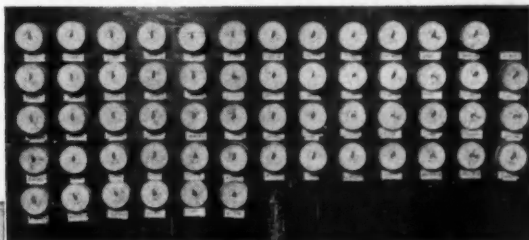
to go. Here's how Quaker City keeps 'em rolling

city. Top road speed is 60 mph, so you see we have little time to dally. When a bus leaves a terminal, it has to be ready for some rugged operation. Competition from other forms of transportation makes our schedules our best talking point, and our riders demand efficient service.

Costs Down

In spite of this our operating costs are relatively low and are continually dropping. Maintenance costs in 1953 were .0926 cents per mile; while 1954 figures showed .0885 cents per mile. This includes supervision; operation and maintenance of garage; repairs to garage; heat, light and power; repairs to chassis; repairs to body; garage wages; and tires and tubes. When

(TURN TO PAGE 134, PLEASE)



"Automatics" Featured at S

Summer Meeting sessions included symposium on 6 million miles of fleet experience with Hydra-Matic transmissions

One of the most factual sessions at the Atlantic City meeting was the report on Hydra-Matic transmission experience by three large fleet operators. Messrs. Hanna and Crocket are involved exclusively with the "Twin Unit" with seven automatic speeds and either two- or three-speed auxiliary ranges. Both agreed that new additions would include only a two-speed auxiliary range as the "creeper" was not necessary in their operations. Mr. Hanna's experience covers the lighter four-speed unit, some with two-speed auxiliary. The following excerpts are taken directly from their papers . . . Ed.

Save Time; Lower Top Speed

By M. S. Hanna, Akers Motor Lines, Inc.

▼ BEGINNING in September, 1954, we received and placed in service, over a period of seven months, 35 Twin Hydra-Matic equipped tractors. The total accumulated mileage of all of these tractors is in excess of two million miles. The oldest two tractors have passed 120,000 miles and the newest lot have turned 35,000 miles.

Our over-all driving time has been maintained on same level as other tractors of comparable horsepower even though the units with automatic transmissions have three miles per hour slower top governed speed.

Our drivers are very high in their praise of operation of these tractors on wet or icy roads. They stated that they were able to keep moving on slippery roads during winter months, when tractors with mechanical shifts had to stop until road conditions improved.

Due to the automatic shifting through the seven stages of the transmission, they are able to maintain a constantly higher speed on hills because vehicle momentum is not lost as much with automatic shifting as with mechanical shifting. Another point that the operators like very much is the ease of driving under heavy traffic conditions. They advise that they are able to keep up in a normal flow of traffic with near capacity loads.

We have been able to tell very little difference in fuel consumption of these tractors as compared with other tractors of our fleet. In fact, the average of the 35 Hydra-Matic tractors will not vary 1/10 per mile per gallon from average on gear shift models.

We have yet to learn what our experience will be

from a maintenance standpoint. At this writing, we have not had to go into a single one of the engines, and engine maintenance has been confined to injector and blower servicing.

Transmission and coupling service has been pretty much confined to modification changes that are the result of continued research by the manufacturer. In as much as our equipment is still in what we would consider to be the low mileage bracket, we do not feel that we can make a suitable comparison on transmission and clutch life. We do know that up until this period our service problems with the automatic transmissions have been no more than we would expect in a normal two-speed axle operation. If we were to voice any criticism, it would probably be directed to the lack of service available on the Twin Hydra-Matic away from home. We have had several cases of equipment tie-up that could have been avoided had we been able to have found a competent mechanic at point of tie-up. But our experience has been satisfactory to the point that we are planning on more of these units in the near future.

Driver Training Most Important

By W. J. Crocket, Copper-Jarrett, Inc.

▼ WE WERE THE first company to purchase trucks equipped with automatic transmissions in the 60,000 lb GCW class. They were immediately put into operation on our regular relay run, with the exception that they would not be turned back to Chicago in Ohio, but, would rather go right through to the east coast and back. This brought about many interesting factors in regards to maintenance and operation. By the time our first Hydra-Matic unit had made its first run through to the east, it was realized that we were going to have to set up a program for driver training and education on Twin Hydra-Matics. Most of the drivers on the east end of our relay had had no diesel training.

By holding meetings for all drivers at their home terminals, and explaining to them how this automatic transmission operated, and what they could do to get top performance out of it by proper use of the reduction unit, and use of the hold position that is built

into the transmission to eliminate a lot of shifting, show them the shift faster and smoother, and would be in the right gear at the right time.

After the gear change, 40 or 50 miles per hour, his first run. Confidence in the transmission, an opportunity for personal question, then on, each driver, own to get used to, break all the old habits acquired over a long time, a truck with a mission. After driven four or five, we had another, them ask all the questions, have come up with, were driving.

Mechanic Training

We schedule mechanics at the holding our drivers. We had a lot of the time, drive it, how to make adjustments and each mechanic engine tune-up, tune-up in each relay stations, well, and we relay schedule. Twins, right model trucks returned at a into more diesel Hydra-Matic units, and speeding the more the mechanics to understand the workings of the Twin that none of any previous or experience. hour class in performance and training all of the new equipped.

With convenient (TURN TO PAGE 76)

d at SAE

into the transmission, we were able to eliminate a lot of their fears and show them that this truck could shift faster and better than they could, and would always be in the right gear at the right time.

After the group meeting I rode 40 or 50 miles with each driver on his first run. It built up their confidence in the truck, and gave them an opportunity to get their own personal questions answered. From then on, each driver was on his own to get used to the truck, and break all the bad habits he had acquired over the years of driving a truck with a conventional transmission. After all the drivers had driven four or five thousand miles we had another meeting and let them ask all the questions that may have come up during the time they were driving on their own.

Mechanic Training

We scheduled a meeting for mechanics at the same time we were holding our driver training meetings. We had to explain the working of the transmission, how to drive it, how to make minor adjustments and repairs, and have each mechanic go through a diesel engine tune-up and Hydra-Matic tune-up in each of our garages and relay stations. This worked very well, and we managed to keep our relay schedule and use of the new Twins, right along with our other model trucks for over a month. I returned at a later date and went into more detail on diesel and Hydra-Matic tune-up and adjustments, and spent more time answering the more technical questions of the mechanics. They all managed to understand pretty well the workings of the Twin, and I might say that none of them had ever had any previous Hydra-Matic training or experience. We also had a three-hour class in power steering maintenance and trouble shooting since all of the new tractors were so equipped.

With conventional transmission
(TURN TO PAGE 164, PLEASE)

OTHER HIGHLIGHTS

● **Tubeless tires and rims** for heavy-duty applications got a thorough going over by representatives of Firestone and Goodyear. Discussions followed along the lines reported in "The Battle of the Tubeless Tire Rim" (CCJ, May, page 70), ended in a dramatic announcement from Tire and Rim Assn. that the industry would standardize on the one-piece drop center rim (Firestone-type) for all sizes through 11.00, use three-piece O-ring seal (Goodyear-type) on all larger sizes.

● **Smog and noise** hung heavily over one of the sessions, began to clear up as panelists reported 12 states now have legislation pending that would limit muffler noise to a level of 125 sones. Instrumentation remains a critical problem, but it was indicated that virtually all new mufflers will meet the requirement. While refusing to admit that the industry can be blamed for smog, the panel suggested that the problem can be eased by careful selection of fuel, good injector maintenance, control of engine temperature and proper selection of equipment.

● **Panel on brakes** featured nine speakers, came up with these oft-repeated conclusions: select the proper lining, maintain to original specifications, and teach drivers how to use them. Balance between front and rear system got a special play, brought forth the suggestions that variation in cooling was a prime offender, that the

size of brake chambers could be increased where unbalance was encountered, that the pyrometer was a most useful tool in gaging temperature build up. Stephen Johnson of Bendix-Westinghouse reviewed an earlier paper (CCJ, March, page 70) showing what can be done to reduce brake application time.

● **Chassis lubrication** brought forth nine papers and three prepared discussions. During the discussion, vehicle manufacturers urged development of chassis greases with longer life expectancy. Oilmen boasted of such improvements as lithium-based multi-purpose lubes, greases with corrosion inhibiting properties and rheopectic lubes (oils which solidify upon flow and become greases). They suggested better sealing could lengthen lubrication period. Carl Mueller, Lincoln Engineering Co., cited advantages of centralized chassis lubrication, especially since the advent of ball joint suspension and nylon tubing.

● **Transmissions** also played a leading role in the session on power train compatibility. Following a series of excellent papers on engines, transmissions, drive shafts, rear axles and controls, most of the discussions centered around gear ratios. It was pointed out that these must be tailored to exact horsepower and gross weight requirements, should have greater flexibility at the upper range to meet high-speed hill climbing requirements.



The brake department at Baltimore Transfer Co. is set up for convenient, efficient work, an important factor in attaining long life and safe stops

Formula for Stopping



By Ward Bennett, Superintendent of Equipment, Baltimore Transfer Co.

From the fleetman's standpoint, better attention to selection of linings and basic brake components, more care in balancing out of equipment, and improved maintenance practices have helped immeasurably in attaining better stops. Tests conducted by the Bureau of Public Roads proved this.

We at Baltimore Transfer can stop a 40,000 lb tractor and trailer within 25 ft at 20 mph. Only recently our tests on a two-axle tractor and two-axle trailer loaded to 55,000 lb showed that we can stop within 26½ ft at 20 mph. These tests, incidentally, were made with a Wagner recorder and a Tapely decelerometer in a manner similar to those made by BPR.

Three Success Factors

We attribute the success of our operation to the following factors:

1. A carefully developed program of selecting linings and components,
2. A practice of modifying equip-

ment (or specifying new equipment) to reduce lag time and speed up application.

3. A simplified, but systematized, and periodic PM program.

Brake Selection Program

It is not easy to control the braking system on common carrier vehicles. Because of the frequent switching of vehicles, it is not possible to balance out brakes between tractors and trailers in a way we would like. Our loads vary from point to point. Drivers are switched around frequently, and tractors and trailers are continually being shuttled. However, we can offset any tendency for out-of-balanced conditions by selecting the very best combination of linings, slack adjusters and brake chambers to meet our average load conditions.

It is pretty well recognized today that a sliding wheel produces a poor braking stop. The coefficient between tire and pavement is reduced considerably when that tire

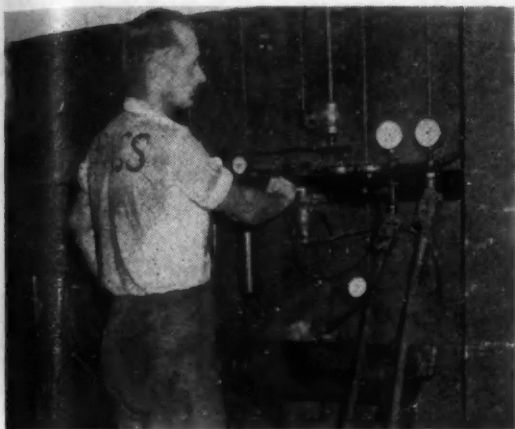
THE SUBJECT of brakes and stopping distances is making headlines across the country. The good news today is that fleetmen are doing something about improving the braking picture. Improvements in brake designs, advancement in design of vehicles and better friction materials have produced a vehicle that will stop in a safe distance.

Shop-made trailer valves drops and v trailer lines

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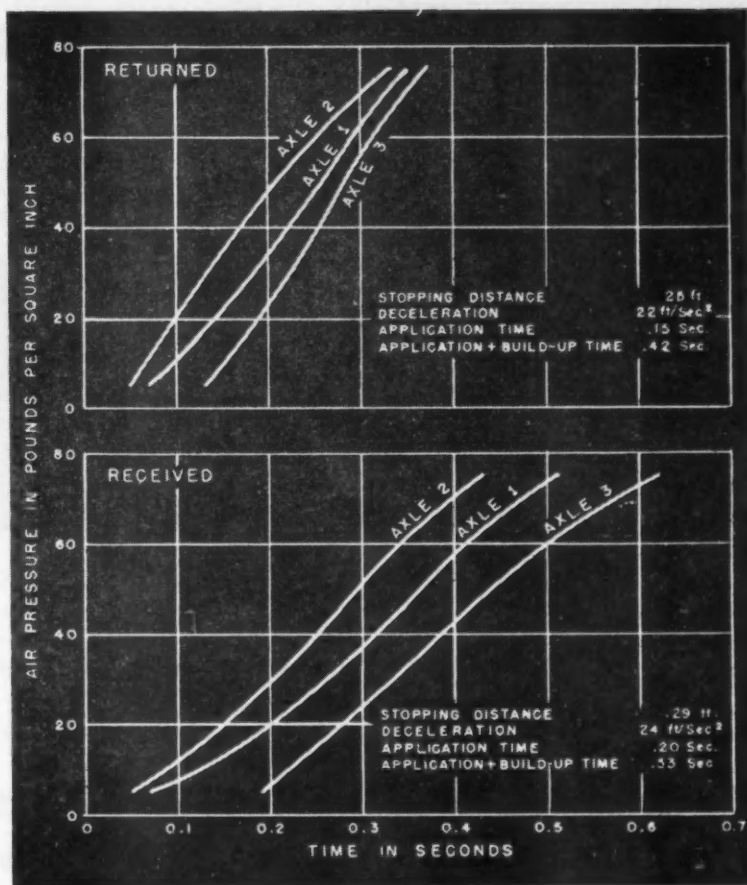
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Shop-made tester provides a quick check of trailer valves without need for tractor. Pressure drops and valve actuation are checked with trailer lines hooked into the shop air supply

Careful selection of lining, a system of modifying equipment to reduce lag, periodic inspections and good PM have paid off for this fleet



Build up of air pressure at brake chambers of a 3-axle rig weighing 40,750 lb is reduced considerably by installing a new relay valve, using 1/2-in. diameter line and adjusting brakes carefully

begins to slide. However, this condition is not always recognized by either the drivers or the shop men. It can be detected during a brake test through axle hop and through a check of the skid marks left on the road. It will certainly show up in extended braking distances.

New equipment is just prone to be overbraked as underbraked—due to the fact that operators' requirements as to loads and weight distribution vary considerably over the country. As a result it is necessary that both new and problem vehicles (tractors and trailers) be checked out at least once to determine whether braking capacity is balanced to the fleet requirements.

Baltimore's Tests

Here is a series of tests we performed recently in a move to select (1) the best lining coefficient for our jobs, (2) the proper slack adjuster length for braking requirements under full load, (3) the right size brake chambers. Test results

are shown here, not as recommendations for others in themselves, but to show how we arrive at the proper balance of these components for the best stopping distances. Emphasis here is only on the fact that every fleetman should have some means of determining these factors in light of his own requirements.

These particular tests were made on a tandem axle trailer, with 16 1/2 x 6-in. brake; 10:00 x 20 tires. Gross train weight was 55,850 lb. The drive axle was loaded to 17,800 lb, and there was 32,300 lb on the tandem. This series was performed in order to determine the best combinations of components on the trailer.

First series of tests were made with "production makes" of brake lining, a 6-in. slack adjuster setting and 10-in. brake chambers on both trailer axles. This rig was stopped in 33.4 ft at 20 mph and was not good enough. We noted at this point that the front axle on the trailer was hopping, indicating a

load transfer to the rear axle rather than the front as might be expected.

Test No. 2. We reduced the slack adjuster arm length to 5-in., retaining the same linings and the same brake chambers. But the stopping distance increased to 39.5 ft. The actual braking distance as shown on the decelerometer increased by 4.7 ft.

Test No. 3. We changed to a higher coefficient of lining; went back to the 6-in. slack adjuster lever arm and the same brake chambers. Stop was brought down to 30.5 ft.

Test No. 4. We reduced the slack adjuster arm length to the 5-in. setting and gained an additional 2-ft improvement in stopping distance. This was a result of too severe a brake, permitting locking up of the front axle.

Test No. 5. We increased slack adjuster length to 6-in. and reduced the size of the brake chamber from 10-in. to 9-in. This reduced the (TURN TO PAGE 152, PLEASE)



\$10 →

Shop Hints

Make a simple drawing of your home-made tools. Take a picture of the shop equipment you have built. Send us a brief description. We will pay \$10 and \$25 to those who submit good ideas for improving maintenance

\$25 ↓

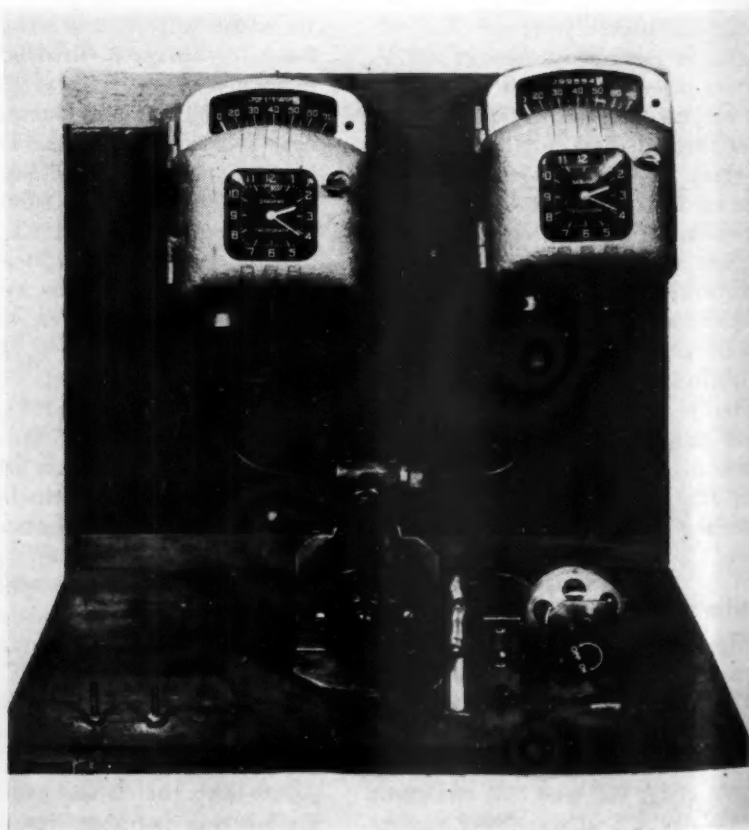
Tachograph Tester

By Leighton Baker
Quaker City Bus Co.

Here is a unit we made to check the tachographs on our buses against a master unit. An examination of the charts and a comparison of them shows us when rebuild or replacement is necessary.

The tester consists of a heater motor, a heater switch, a rheostat and a resistance of enough capacity to provide adequate speed control. Drive mechanism is a speedometer adapter with a flexible drive to the heater motor and salvaged speedometer cables for driving each tachograph. The tester is powered with a 12-volt battery connected through leads to the terminals at the left.

A 20-min run-in at various speeds on this device will show up defective units so that the service man knows what to look for during his rebuild.



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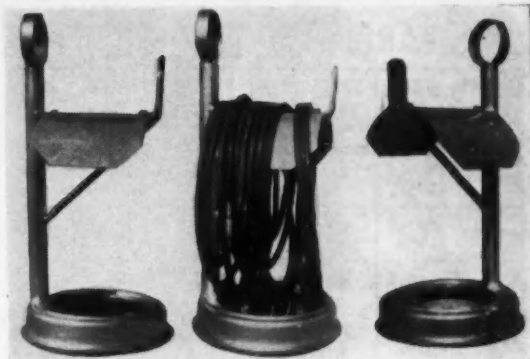
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Portable Rack Holds 50-ft Air Hose

By George Favinger, State Roads Commission, Easton, Md.

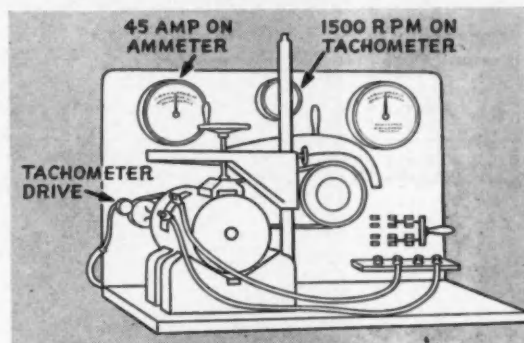
We find this rack practical for keeping our 50-ft section of air hose in place. It makes for good housekeeping in our shop. A 3-ft length of 1½ in. pipe was welded to a discarded wheel drum. The carrying handle at the top of the pipe is a discarded bearing race. The curved section supporting the hose is made of 14 gage sheet metal bolted to a supporting bar and brace which, in turn, is welded to the 1½-in. pipe.



Stand Speeds Blower Motor Adjustment

By Milton L. Burke, Electrical Foreman, A.B.&W. Transit Co.

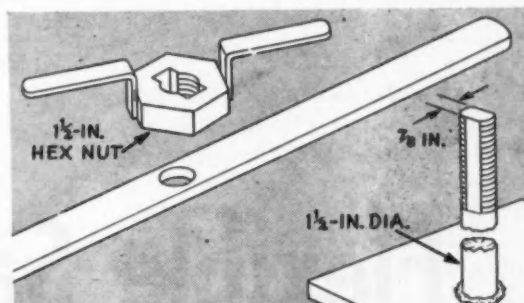
After overhauling GMC bus overhead blower motors, we found it difficult to adjust the speed and current draw. They either ran too slow or kicked-off the circuit breaker. We have overcome the trouble using this generator test bench. A 2½-in. V pulley on the blower motor turns an 8-in. pulley on the test bench. Using a fully charged battery as power, hook up the blower motor to drive the generator tester clockwise. Then slowly turn on the generator tester to turn counterclockwise using just enough current to put a load on the blower motor. At this point you can adjust the blower motor to 1500 rpm with a 45 amp draw by shifting the brushes. This has proven satisfactory for us.



Inflation Guard Has Quick Release

By David E. Russell, Arabian American Oil Co., Saudi Arabia

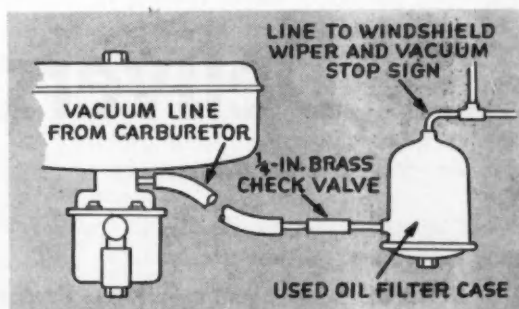
The purpose of this device is to guard against blown lock rings while inflating tires. Trim two sides of 1½-in. diameter threaded stock and weld it to a base plate as shown. Notch a 1½-in. hex nut as indicated and weld on two wings. Place the tire over the base plate and drop the bar over the center post on top the tire. You can then drop the nut on the post and quickly secure it by a quarter turn. After the tire is inflated, it can be as easily released.



Stop Sign Operates with Dead Engine

By R. W. Brandon, Supervisor, School Buses, Pickens County, Ala.

To operate vacuum stop signs on school buses and to maintain continuous windshield wiper operation, we find this a handy device. A discarded oil filter case is fastened to the firewall. From the top, a line leads to the windshield wiper and the vacuum stop sign. From the bottom, the line leads to the intake vacuum line. We install a ¼-in. brass check valve in this line to hold vacuum in the filter case. This set-up enables us to hold stop signs out with the engine dead.



Unit Pulls Timken Worm Drive Bearings

By Hjalmar Gustavson, Mechanic, Inland Motor Freight

This snapshot of a shop-made bearing puller for Timken worm drives, I believe, is pretty much self-explanatory. The puller sleeve is split and held together with cap screws to permit installing and removing. The top is hinged, as indicated, to permit insertion of a jack. We use a small porto-power jack, but any hydraulic or screw jack could be used by adding height to the puller. A ¼-in. collar turned or welded inside the puller sleeve pulls against the bearing rollers which, in turn, pull against the race flange of the bearing cone.



"SHARE THE SAVINGS" PLAN

BOX SCORE

DATE January 31, 1955

TERMINAL	ORIGINAL STARTING DATE	TOTAL MONTHS NEEDED FOR AWARD	MONTHLY AWARD NO ACCIDENTS (TYPE A)	MONTHLY AWARD NO CHARGEABLE ACCIDENTS (TYPE B)	TOTAL POSSIBLE AWARD EACH PROGRAM	TOTAL \$ AWARDED PREVIOUS PROGRAMS	LAST CHARGEABLE ACCIDENT	CURRENT STARTING DATE	CURRENT AWARD PROGRAM	TYPE A MONTHS TOWARD CURRENT AWARD	TYPE B MONTHS TOWARD CURRENT AWARD	TOTAL MONTHS TOWARD CURRENT AWARD	TOTAL \$ AWARD TO DATE	NO MONTHS TO GO
TORONTO	Nov. 1 1954	2	60.00	40.00	120.00	.00	Dec/54	Jan 1/55	2	1	0	1	60.00	1
HAMILTON	Oct. 1 1954	5	24.00	16.00	120.00	.00	----	Oct 1/54	1	3	1	4	88.00	1
NIAGARA	Oct. 1 1954	4	31.50	21.00	126.00	.00	Jan/55	Feb. 1/55	2	0	0	0		4
BRANTFORD	Nov. 1 1954	7	12.00	8.00	84.00	.00	----	Nov. 1/54	1	2	1			
WOODSTOCK	Sept. 1 1954	4	34.50	23.00	138.00	115.00	Jan/55	Feb. 1/55	2	0	0			
KITCHENER	Jan. 1 1955	6	21.00	14.00	126.00	.00	----	Jan. 1/55	1	0	1			
LONDON	Nov. 1 1954	4	30.00	20.00	120.00	.00	Nov./54	Dec. 1/54	2	1	1			
CHATHAM	Nov. 1 1954	5	24.00	16.00	120.00	.00	----	Nov. 1/54			1			

By **J. E. Taylor**, Director of Safety
Overland Express, Ltd., Woodstock, Ont.



Flexible Safety Program Delivers the Goods

WE HAVE heavily emphasized safety for the past three years. This has brought about a 300 per cent reduction in accidents in our fleet of 120 tractors, 165 open semis and vans and 81 city trucks covering western Ontario from Windsor to Toronto. But we think that the cooperation of our drivers in our safety work was largely gained because we try to personalize the program, to make it interesting personally to each driver.

For instance our poker hand deal of a year or so ago which ran in all our terminals and is still running at Sarnia. Our Woodstock poker

hand ran for seven weeks. During this period any driver with NO chargeable accidents was dealt a card from a deck of cards once per week. This card was stuck up on a board under the driver's name in the drivers' quarters for all to see. The driver with the best poker hand at the end of the period won a carton of cigarettes. It's surprising what interest this inexpensive contest caused and how hard the driver worked to avoid chargeable accidents.

We have been running currently a money award contest involving the entire driver personnel at each of

our branches and, of course our home office drivers. It's wonderful how the boys are digging in to avoid both chargeable and non-chargeable accidents.

Box Score Money

We call this contest the "Share the Savings" plan. To keep score we drew up a Box Score sheet which is issued monthly to each branch showing how they, and the other branches, are making out. We keep score here in the head office.

We award a dollar per month per driver to the drivers as a group if

Left. The box score personnel informed in all branches gets last minute starting the trip to drivers to or state of train

is qualified

Exceptions: This Certificate Express Limited operating Com
May 16
Date of Issue

Novel

driving

gram. E

the branch has accidents within nated necessary award. If the dents at all, chargeable, w bonus of 50 month.

To illustrate and to show first column on "Terminal" un name each of Let us consid Toronto branch headed Origin mark in the c

COMMERCIAL CAR

Left. The box score sheet keeps personnel informed of the safety picture in all branches. Right. Company driver gets last minute instructions before starting the trip. Below. Card issued to drivers to indicate classification or state of training for various jobs



THE OVERLAND EXPRESS LIMITED OPERATOR'S CERTIFICATE		CLASS
the holder of this Certificate:		A
John R. Doe		
is qualified to operate Overland Express vehicles as below:		
and/or		
and/or		
Exceptions: <i>local ops only</i>		
This Certificate is valid while the holder is employed by The Overland Express Limited unless cancelled by the Company and must be carried when operating Company vehicles.		
<i>May 16</i> Date of Issue	<i>1955</i>	<i>R. J. Bannum</i> Issuer

Novel "poker game" provides incentive for safe driving. Award system invites new interest in program. Box Score traces money awards to drivers

the branch has no chargeable accidents within the period designated necessary to qualify for the award. If the branch has no accidents at all, chargeable or non-chargeable, we give an additional bonus of 50 cents per man per month.

To illustrate the Box Score sheet and to show how it works. The first column on the sheet is headed "Terminal" under which we list by name each of our ten terminals. Let us consider how we score the Toronto branch. Under the column headed Original Starting Date, we mark in the date Toronto started

the contest, in this case November 1, 1954. The next column is headed "total months needed for award." In Toronto's case this is 2 months.

Next come two columns setting forth how much the group of drivers in Toronto can win in total award money for no chargeable accidents and for no accidents of any kind. Under the column headed "Monthly Award, No Chargeable Accidents (type B)" we marked down the amount which in Toronto's case is \$40, because forty drivers work out of there.

Under another column headed "Monthly Award, No Accidents

(type A)" we mark in \$60 which is the original \$40 plus a bonus of 50 cents per man for no accidents at all. Thus Toronto can earn a top award of \$60 per month or, for the 2-month period necessary to win the award, a total of \$120. This amount is typed in under the column headed "Total Possible Award, each program." The figure here shows only what the branch can win, not what they have won. The next column is headed "Total Dollars Awarded, Previous Programs," which is self-explanatory.

The next column is headed "Last Chargeable Accident" wherein year and month of the accident is typed in. The next column shows the starting date of the new contest. Once the designated period (2 months in Toronto's case) expires another contest starts immediately.

Group Pressure

It should be noted that a single chargeable accident at any time within the contest period automatically wipes out all monies won to date so that the branch must start all over again. Our drivers become real interested in this aspect of the program and woe betide the un-

(TURN TO PAGE 120, PLEASE)

New PRODUCTS

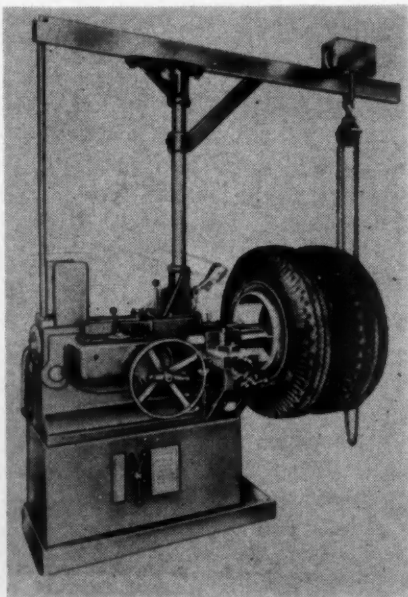
The latest developments in parts, accessories, tools and equipment for the fleet field, described in brief for your convenience

P1. Tire Changer

Cam Tool, Oakland, Cal., announces a new tire changer for light trucks. Features include: positive grip of rim, simplicity and speed of operation, will not harm seals on tubeless tires. The stand can be positioned out of traffic near a wall, since a revolving mandrel enables the operator to stand in one position.

P2. Brake Drum Lathe

Van Norman Co., Springfield, Mass., is introducing its Model No. 404 "Speedy Brute" brake drum lathe. Features of the lathe include: "Vapo-Jet" dustless grinding, load compensator and full 16-in. travel. One man can handle large dual-mounted drums. In addition, operators like it because of its speed and ability to take big cuts fast, and because feed and speed can be instantly and positively regulated.



P3. Elevating End Gate

Gar Wood Industries, Inc., Wayne, Mich., announces its new improved elevating end-gates for trucks and trailers. The new gate has a lifting capacity of 2000 lb and is available with a choice of 8 platforms. Four gate sizes range from 84 x 28 in. to 90 x 36 in. for both standard and ramp type platforms. There are only three arms extending from the truck to the gate itself. The arms are all single piece units. The end-gates are mounted so that there is no loss of ground clearance. The entire mechanism is mounted above axle level. All operations are powered by only one double-acting cylinder. One hydraulic valve controls all operations. The valve safely stops and holds the platform at any height at the release of the control lever. Double safety latches hold both sides of the gate.

P4. Non-Skid Accessories

Bustin Steel Products, Inc., Dover, N. J., has introduced a line of non-skid, safety accessories for working on trucks. Illustrated above, the line includes: positive non-skid surface running boards, running board mats, auxiliary step bars, safety edging for top of bumper, truck body steps and engine servicing platforms.

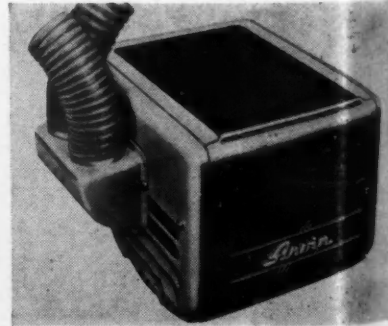


P5. Tire Truer

John Bean Automotive Division, Lansing, Mich., announces a new portable tire truer. The new model has been designed as a self-centering unit, mounting on the spindle at exact wheel center, to eliminate possibility of overcutting and insure perfectly round tread surfaces.

P6. Cab Heaters

Arvin Industries, Inc., Columbus, Ind., will introduce this fall two new hot water heaters. They are the Series 55 fresh air or recirculating model, and the Series 20 (shown below), a recirculating heater. Both models are to be made available for 6- and 12-volt electric systems. Featuring pressure-forced heat, originating in a blower equipped with a high-speed impeller operating up to 3000 rpm, the Series 55 refills its core with hot water every two seconds at normal driving speeds and all the air is circulated anew during a two-minute time span. Kits that adapt to fresh air operation and also provide defrosting are available. The Series 20 recirculating unit also has optional defrosting equipment. This heater's core has 2800 sq in. of radiating surface. The 8-blade, 7-in. fan, moves 150 cu ft of warm air per minute.



P7. Fire Extinguisher

Walter K. N. J., announced, dry chemical extinguisher which requires no approval for use from 150 to 200 lbs. It has a pistol grip, a new mechanism, a new gauge which indicates unit's charge. Kidde's diffusion pattern to use of the dry

P8. Engine

King Electric Cleveland, Ohio, Model No. M. Designed for use in vehicles, the engine has a 110 volt eliminating the battery. Savings cost has been use of double ample stowage through a full rolls on large wheels.

P9. Air Compressor

DeVilbiss Company, a new 1/2 hp. compressor for low pressure ignition PJE. It is a gasoline engine with electric motor. It has two rubber handles from the trunk of the bed. In operation, it rests on the two rubber pads. It is a right single cylinder block as one integrated a regulating to prevent overload means for air pressures.



P7. Fire Extinguisher

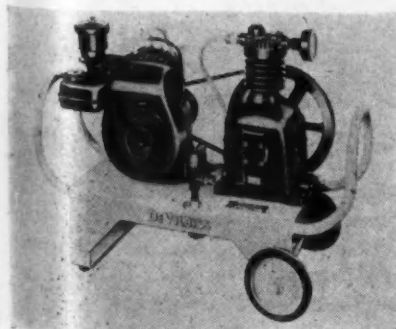
Walter Kidde & Co., Belleville, N. J., announces a new 10-lb. pressurized, dry chemical fire extinguisher which carries Underwriters' approval for a pressure range of from 150 to 250 lb. The unit features a pistol grip trigger release mechanism, a new dust and moisture-proof gage which shows at a glance the unit's charged pressure. It also uses Kidde's diffuser horn which gives extra wide coverage of the discharge pattern to make the most efficient use of the dry chemical.

P8. Engine Analyzer

King Electric Equipment Co., Cleveland, Ohio, announces its new Model No. MT-840 engine analyzer. Designed for both 6 and 12 volt vehicles, the new analyzer operates from a 110 volt source of power, thus eliminating the need for a storage battery. Saving in manufacturing cost has been effected through the use of double-duty meters. Unit has ample stowage space accessible through a full length door, and it rolls on large molded ball bearing wheels.

P9. Air Compressor

DeVilbiss Co., Toledo, Ohio, is making a new ½-hp. portable air compressor for spray painting and other low pressure use. It carries the designation PJE-521 when powered by a gasoline engine and PJ-521 when electric motor driven. The compressor has two rubber tired wheels for moving from place to place. Carrying handles simplify lifting the unit into the trunk of a car or onto a truck bed. In operation the complete unit rests on the rubber tired wheels and two rubber padded feet. It is of upright single cylinder design with the cylinder block and the crankcase cast as one integral unit. The new unit has a regulating type safety valve to prevent overloading and to provide a means for adjusting compressor air pressures.

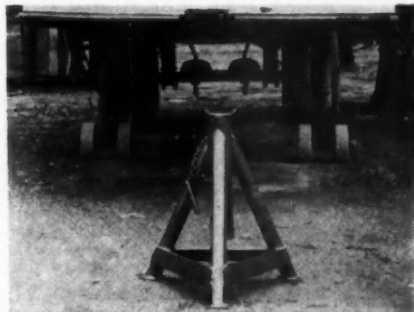


P10. Line Marker

Jawco Products Corp., York, Pa., announces a new line marker for painting guide lines in shops or parking lots. It can be used to paint 2, 3, or 4-in. lines on any hard surface. Brush sizes can be used interchangeably. Operator maintains desired pressure on the brush by varying position of liner handle. Brush can be lifted off painted surface by raising handle towards a vertical position.

P11. Trailer Stand

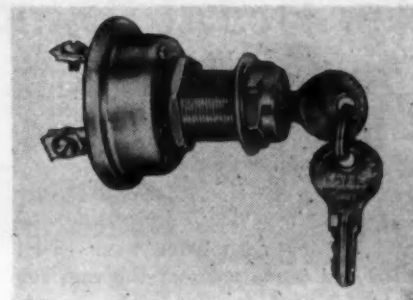
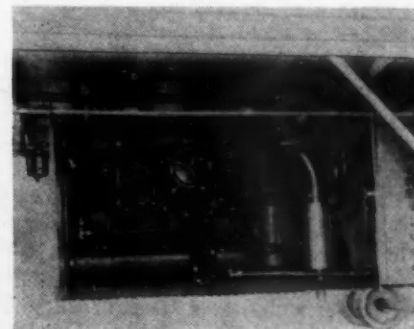
Morris Equipment Co., Detroit, announces a new trailer stand. It is constructed of tubular steel throughout, and is adjustable in height from 34 to 48 in. The stand is built to prevent slip or shift on irregular or sloping surfaces. Fleets will find it handy for such jobs as changing springs, repairing landing gear, unloading on a nose-down incline, sup-



porting back corners of trailer or loading or unloading with Hi-Lo.

P12. LP Gas Reefer

Transicold Corp., Los Angeles, Cal., has a new LP gas carburetor for its trailer reefer units. The unit is only 3½ in. high with a ½-in. SAE flange size and an airhorn OD of 1½ in. This carburetor is used in connection with a model 1900E ALGAS carburetor to provide an economical LP-Gas carburetion system for the Transicold units. The Transicold system is designed for 35 and 40 ft trailer units which are used primarily for long distance hauling of all types of perishables.



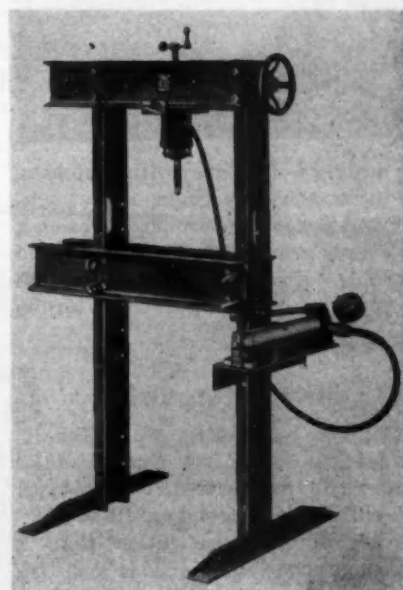
P13. Ignition Switch

Cole-Hersee Co., Boston, Mass., is now producing a key-operated combination ignition and starter switch specifically developed for superior service and long life under extreme conditions of dirt and moisture. The M-550, which contains a removable tumbler and two coded keys, is enclosed in a solid brass case to prevent the entrance of dirt and moisture. The brass bushing will accommodate panels up to and including ¾ of an inch thickness. The M-550 has "On," "Off," and "Start" positions with automatic self-return from the spring loaded "Start" position when pressure on the key is released.

P14. Hydraulic Press

Owatonna Tool Co., Owatonna, Minn., a new 17½-ton hydraulic shop press. The horizontal bed channels extended beyond the upright channels form an open throat arrangement greatly increasing the range of jobs the press can handle. In addition, an adjusting wheel at the top of the frame makes possible fast and effortless adjustment of the bed channels to any desired working height. Special window openings in the upright

(TURN TO NEXT PAGE, PLEASE)



New Product Descriptions

Continued from Page 85

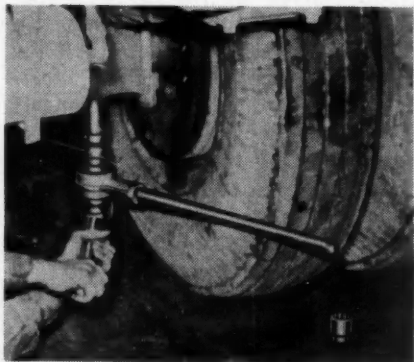
channels also are provided to accommodate long shafts and bars for straightening or service work. Full horizontal adjustment of the ram for off center work is afforded by the adjustable cross head attachment.

P15. Stud Tool

E. V. Nielsen, Inc., Stamford, Conn., offers a new stud driver and extractor. This new collet-type studder, called the "Service Bi-Way" studder, performs three stud operations. It extracts studs with maximum salvage in maintenance and repair work. Features quick, sure, automatic gripping action, instant shifting to pulling action where required, and fully adjustable control over driving depth. Serrated collet is available which will extract studs with as little as $\frac{1}{8}$ -in. exposed length. Five different sizes are available covering stud sizes from $\frac{3}{16}$ to $\frac{1}{2}$ -in.

P16. Gear-Head Wrench

Bonney Forge & Tool Works, Allentown, Pa., has announced a new 4-to-1 geared-head wrench for heavy assembly and disassembly work requiring rotary effort over 200 ft lb. The "X-4"



is designed for use with ratchets, torque wrenches, sockets, and attachments. Torque is produced through planetary gears. It is lightweight and portable. Know 4-to-1 ratio permits its use as a multiplier for torque wrenches.

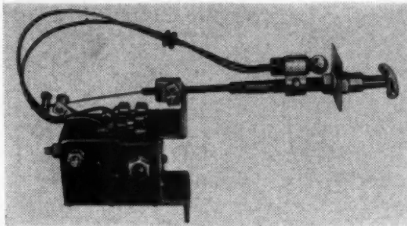
P17. Fire Extinguisher

Elkhart Brass Mfg. Co., Elkhart, Ind., announces a new Underwriters' Approved pressurized, water-type, 2½-gal fire extinguisher, "Elk-Air." It uses air pressure rather than a cartridge charge. No soda-acid re-

charge or CO₂ cartridge replacement is necessary. On the spot re-charging is done by merely replacing the water and pressurizing by air the same as an automobile tire. Valve control permits stream to be turned on or off, conserving water and eliminating excess water damage. Easy-to-read pressure gage indicates if extinguisher is ready for action.

P18. Circuit Switch

Monroe Standard, Inc., Galion, Ohio announces its new "Mak-Saf" circuit switch designed to eliminate short circuit fire hazards. The generator and battery can be disconnected—a safety measure when vehicle is



stored in public or private garage or when a fleet of trucks or buses is parked close together. A pull of the handle on the instrument panel does the disconnecting.

P19. Tire Truer

Barrett Equipment Co., St. Louis, Mo., announces a new portable tire truer. It handles wheels on or off the vehicle and trues and regrooves flat or round face tread tires.

P20. Timing Light

Auto-Test, Inc., Chicago, has developed an alternating current timing light designated as "ATL X-110." Unit is in the form of a pistol with an overall length of 10¼ in. It will operate on battery ignition as well as magneto ignition systems. Features include: unbreakable neoprene case, stroboscopic bulb, pistol-grip design, long, flexible leads, tight-grip clip, hermetically sealed capacitor, filament type rectifier.

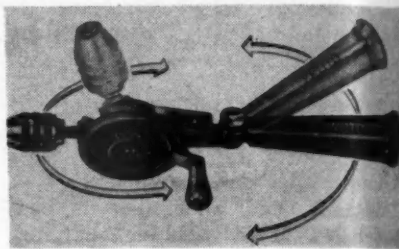
P21. Tire Mounter

Coats Co., Inc., Fort Dodge, Iowa, announces an improved model of the "Coats Iron Tireman" which features new upper and lower bead breakers

especially designed for tubeless tires and safety rims. The new bead breakers are designed to apply pressure over a wide area and to unlock the bead without touching the sealing ridge or twisting the bead.

P22. All-Angle Drill

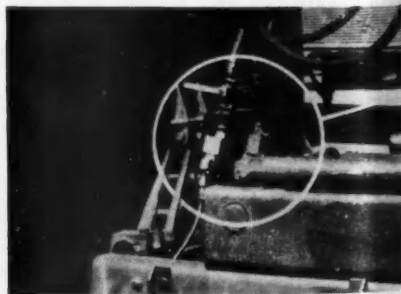
Plomb Tool Co., Los Angeles, Cal., announces a "Proto," all-angle drill. Since both the chuck and handle are adjustable to various angles, the drill



will reach around obstructions and operate in close quarters. The 0 to ¼-in. capacity chuck swings in a 270-deg arc, and has a spring lock that enables the user to change angles with a flip of the thumb. The handle turns in a 180-deg arc at right angles to the chuck movement path. It is held in its several positions by an adjusting screw. Storage space is provided in the hollow handle for a large number of regular and high-speed drills.

P23. Safety Valve

Lee Air Line Products, Inc., Glendale, Cal., announces a set of automatic, piston-type safety valves. They contain no diaphragms, require no lubrication or routine maintenance and are fully automatic under all operating conditions. They fit in the air lines using existing standard fittings. Says the maker, they "... passed every test, as well as complying with all safety regulations and requirements." The body and piston



are made of corrosion resistant alloys with oil resistant "O" ring seals. The maker says it functions as a break-away valve. It can also be used on front and rear wheels. Valve is actuated to prevent air loss in event of diaphragm or air line break.

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uly, 1955

Open letter to FLEET OWNERS

You want to keep your trucks rolling as long
as possible between overhauls.

You want the most economical engine per-
formance for every mile.

You want maximum oil economy.

**Sealed Power KromeX Ring Sets
will help you reach these goals!**

They are the sure way to Faster Pick-up,
Smoother Performance, Double Ring Life,
Maximum Oil Economy and Positive lubrica-
tion! Insist on Sealed Power KromeX!

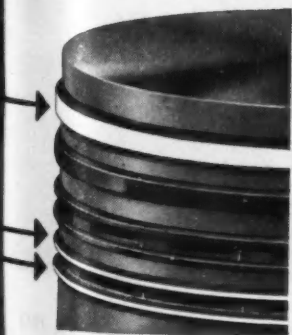
SEALED POWER CORPORATION • MUSKEGON, MICHIGAN

Sealed Power Piston Rings

BEST FOR RE-RING! BEST FOR RE-BORE!

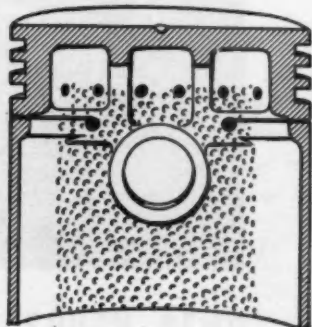


P.S. Every re-ring job deserves all three...



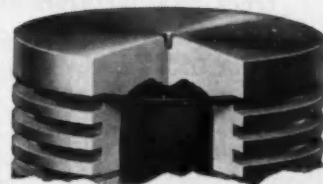
1

Use KromeX on
all ring jobs.
Modern engines
need chrome
rings to fight
heat and corro-
sion and reduce
friction.



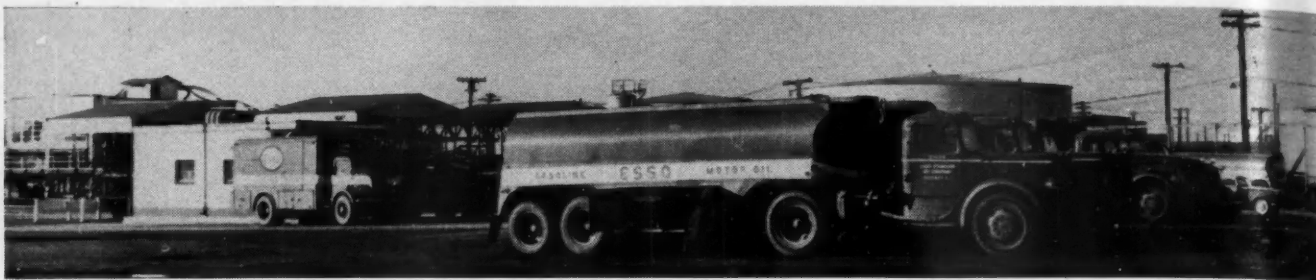
2

Have all pistons
resized on SEALED
POWER Super-
Sizer—expands
skirt to original
close fit—re-
tains cam con-
tour.



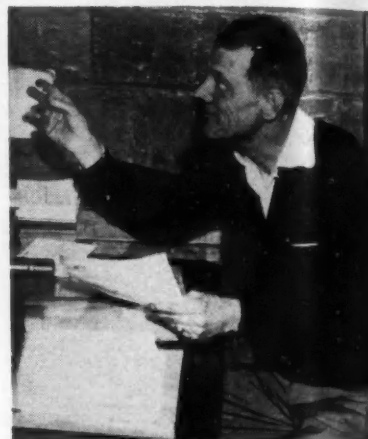
3

Install SEALED POWER
GI-60 Contracting
Groove Inserts—the only
dependable, economical
answer to top groove wear.



Typical vehicles of the Esso fleet at the Linden plant

New design cuts service time, provides better engine protection and costs less to install



By Howard C. Cannon
Esso Standard Oil Co., Linden, N. J.
Superintendent of Maintenance

Dry Type Air Filter

Simplifies Maintenance at ESSO

Replacement of the dry type element takes only one minute. The oil bath type requires 7 min. to change

V ESSO has a history of testing things that look as though they might result in operating economies. I can remember servicing the first air brakes Esso tried out and clearly recall our testing the first high pressure pneumatic tires which marked the beginning of the end for the solid rubber variety. We've been happy to play a role in the development of a new dry-type air filter. Our experience while field testing it has been favorable, and now that several leading engine and truck manufacturers are using the dry-type filter as standard original equipment, it looks as though our judgment has been verified.

Here's what we have found in our field
(TURN TO PAGE 118, PLEASE)

While this particular filter was developed by Purolator Products, Inc., other manufacturers are presently putting dry units on the market in view of the advantages chalked up in simplified maintenance practices—Ed.



Bendix Products Division

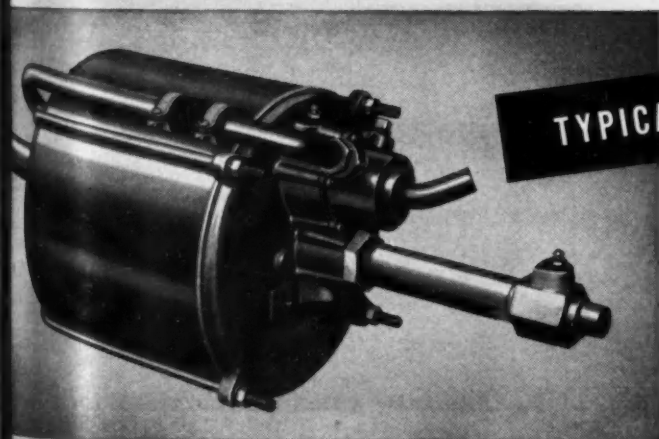
A good reliable source

FOR AUTOMOTIVE COMPONENTS

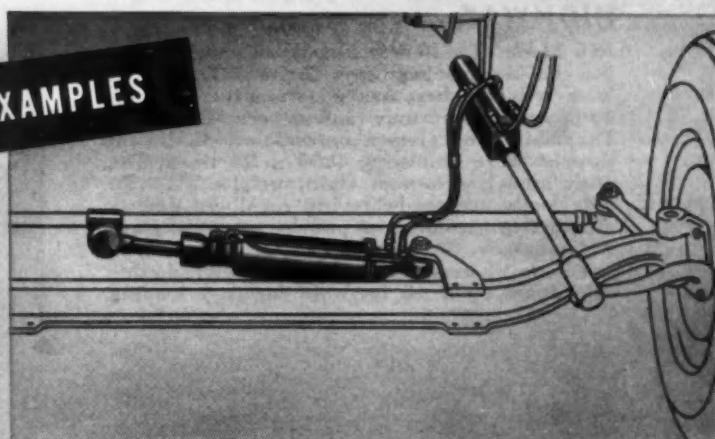
Over two million square feet of floor space at the Bendix Products Division insures the manufacturing capacity to meet volume requirements, with on-schedule deliveries in a wide range of automotive components.



TYPICAL EXAMPLES



BENDIX HYDROVAC* POWER BRAKE—With over four million uses, the Bendix Hydrovac is the world's most widely used power brake for commercial vehicles. This overwhelming reference for Hydrovac is a result of sound engineering design, exceptional performance, low original cost and minimum service upkeep. Make the industry's choice your choice.



BENDIX LINKAGE TYPE POWER STEERING—Because Bendix* Power Steering is of the linkage type, manufacturers find it especially adaptable for production line installation without extensive engineering changes. Manufacturers can now meet the ever-increasing demand for power steering more efficiently and more economically with Bendix Linkage Type Power Steering.

*REG. U.S. PAT. OFF.

POWER BRAKES • POWER STEERING • POWER BRAKING • CONSTANT VELOCITY UNIVERSAL JOINTS • HYDRAULIC REMOTE CONTROLS

BENDIX PRODUCTS DIVISION SOUTH BEND INDIANA

Export Sales: Bendix International Division, 205 East 42nd Street, New York 17, N. Y.

Bendix
AVIATION CORPORATION

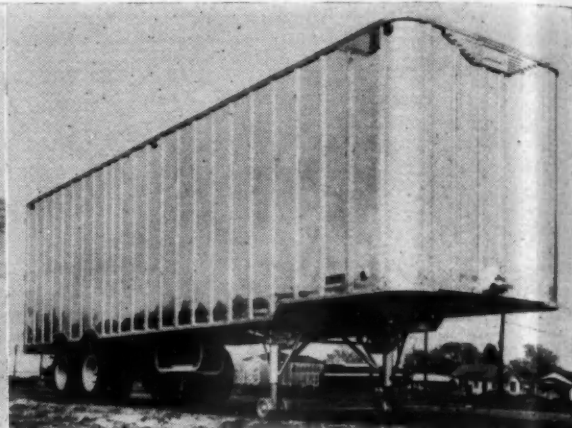
only one
to change

July, 1955



HOBBS . . .

This tractor, semi-trailer combination makes four round trips a week between the Lone Star brewery in San Antonio and the Pete Brewer Distributing Co. warehouse in Fort Worth. The van trailer is a Hobbs steel and aluminum tandem unit. It measures 32½ ft long. Payload is 900 24-bottle cases, 1537 24-can cases or 1378 cases of "empties" on the return haul. Note van's horizontal rib construction



DORSEY . . .

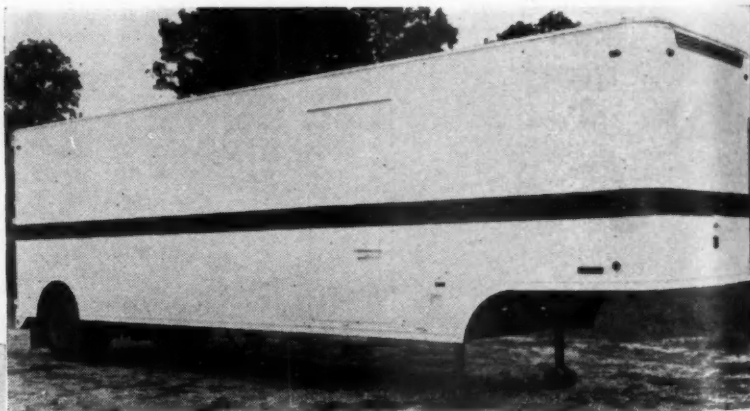
New Dorsey entry in the high volume competition is this aluminum van. The 35-ft tandem model, as shown above, has more than 2275 cu ft of payload space. Outside height with 10.00 x 20 tires is 12 ft, 6 in. Inside height ahead of the drop is 95 in. and behind the drop it measures 100 in. Inside width is 94 in. Stressed sides have outside posts on 18-in. centers. Weight of this vertical rib unit is 9380 lb

New Trailer Developments

Promise Higher Fleet Profits

HIGHWAY . . .

New Model No. 19 warehouseman's van has 10 per cent more cubage says Highway Trailer Co. It is 4 in. higher, has a squared front with 10-in. radius corners and a semi-flat roof. The 20-in drop gives a ground-to-floor dimension of 31¾ in. using 9.00 x 20 tires. The 32-ft model, shown at right, weighs 8425 lb. Side walls are load-carrying members due to unitized construction of panels, rub-rails, posts and cap rails. Watertight, galvanized steel roof has 2-in., hat-shaped bows. Optional double side doors open 48 in. wide for easy loading



STRICK . . .

All-plastic reefer made by Strick and just put into service by Davidson Transfer & Storage has structural members, exterior walls, ceiling, doors and inner liner of "Lamcor," a fiber-glass-reinforced plastic developed by Strick. The 34-ft van, at left, has 1812 cu ft, weighs 11,964 lb, is 7 ft, ¾ in. high. It is designed to hold minus 5 deg F, can be used for heater service. Says Strick, the plastic won't warp, corrode, rot or absorb odors. Its use eliminates breeding places for bacteria, fermentation and vermin. It can be steam cleaned. Doors don't swell and there's no metal-to-metal wall contact

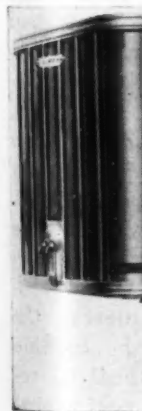
COLUMBIA

Made by Colum tank trailer f Small diameter away. Mid-sect forward section said to provid jackknifing of limitations and

One thing

high cuba

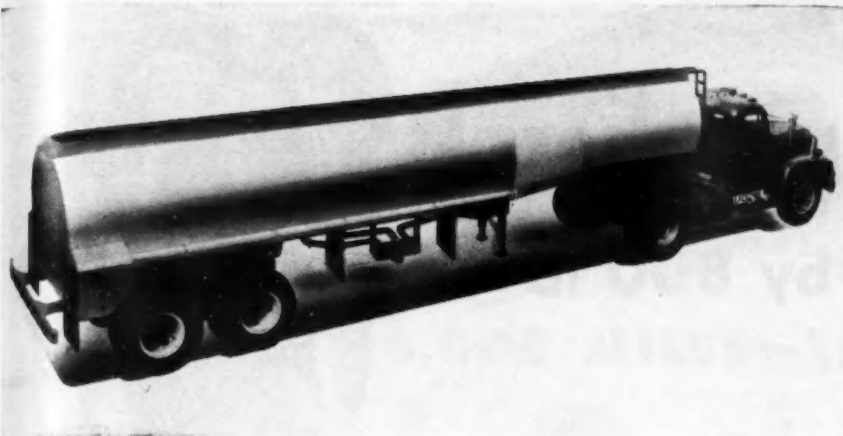
vantages



STRICK .

Interstate Mo "open top" t Turning a cr the roof eith mit crane-loa trailer is ava Called the Strick, mode one direction adapted here inside height drop of 97 leak even w

COMMERCIAL



COLUMBIAN . . .

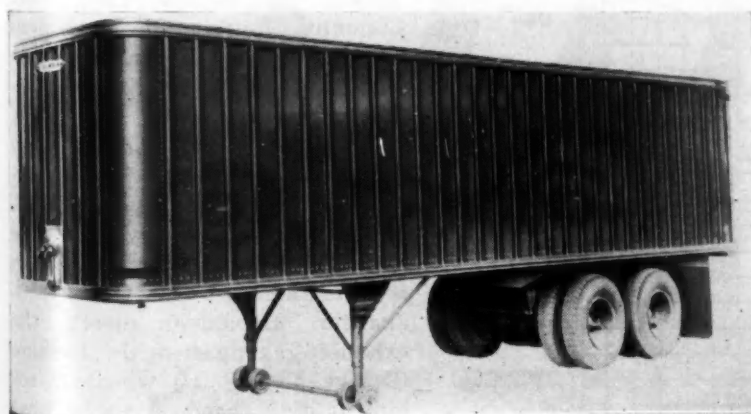
Made by Columbian Steel Tank Co., this 6600-gal. steel tank trailer features sections of graduated diameter. Small diameter section at front end replaces usual cut-away. Mid-section is tapered to match diameters of the forward section and the larger rear section. Design is said to provide a close-coupled unit, permit complete jackknifing of tractor. Trailer's construction meets the limitations and specifications of ICC-MC-302 says maker

FRUEHAUF . . .

This stainless steel, tandem-axle van is Fruehauf's latest entry in the high cube trailer market. It has a 94-in. inside width, does not exceed standard dimensions outside. The 35-ft model, shown above, measures 7-ft, 10½-in. high with 10.00 x 20 tires. Interesting feature is a square tube outside chassis frame members to carry wires and brake lines. New floor and roof construction and restyled rear doors contribute to higher cubage of unit



One thing new units have in common is high cubage, but each offers certain advantages in its field for improved service

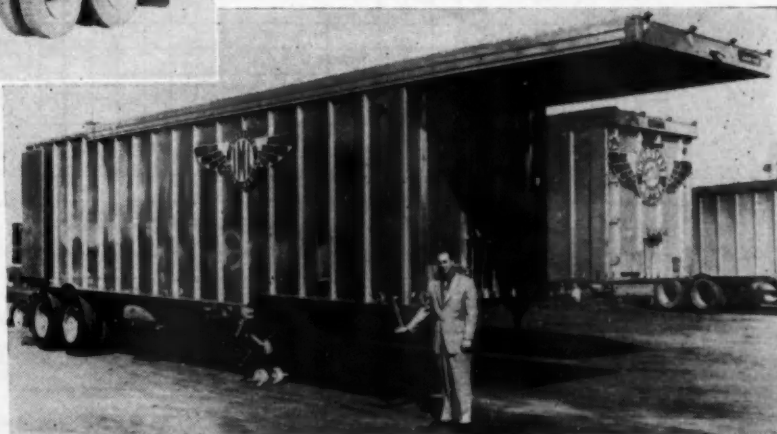


STRIK . . .

Interstate Motor Lines has put into service "open top" trailers with an aluminum roof. Turning a crank, as shown at right, moves the roof either forward or backward to permit crane-loading of freight. Two-thirds of trailer is available in either open position. Called the "Strickroof" by the maker, Strick, models are available that open in one direction only. The design has been adapted here to a high cube trailer with an inside height at the eaves in back of the drop of 97¾ in. Strick says roof doesn't leak even when a pressure hose is used

TRAILMOBILE . . .

Trailmobile says its new IP models are lighter by nearly ¾ of a ton in the 35-ft class. The all-steel van, at left, weighs less than the 1954 model aluminum van. It has 20 per cent greater cubic capacity, being higher, wider and longer on the inside. The IP means "Integral Posts," which are actually closed exterior posts stamped as an integral part of the panels and closed by 44 spot welds as the panels are joined. This design is said to give more strength than open-on-the-inside corrugations, does not damage as easily, is smooth on inside

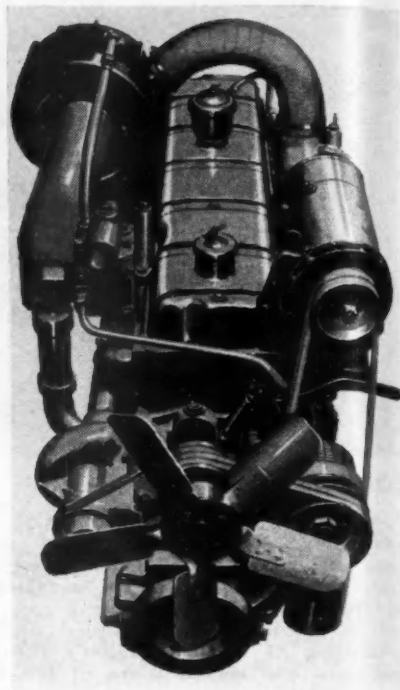
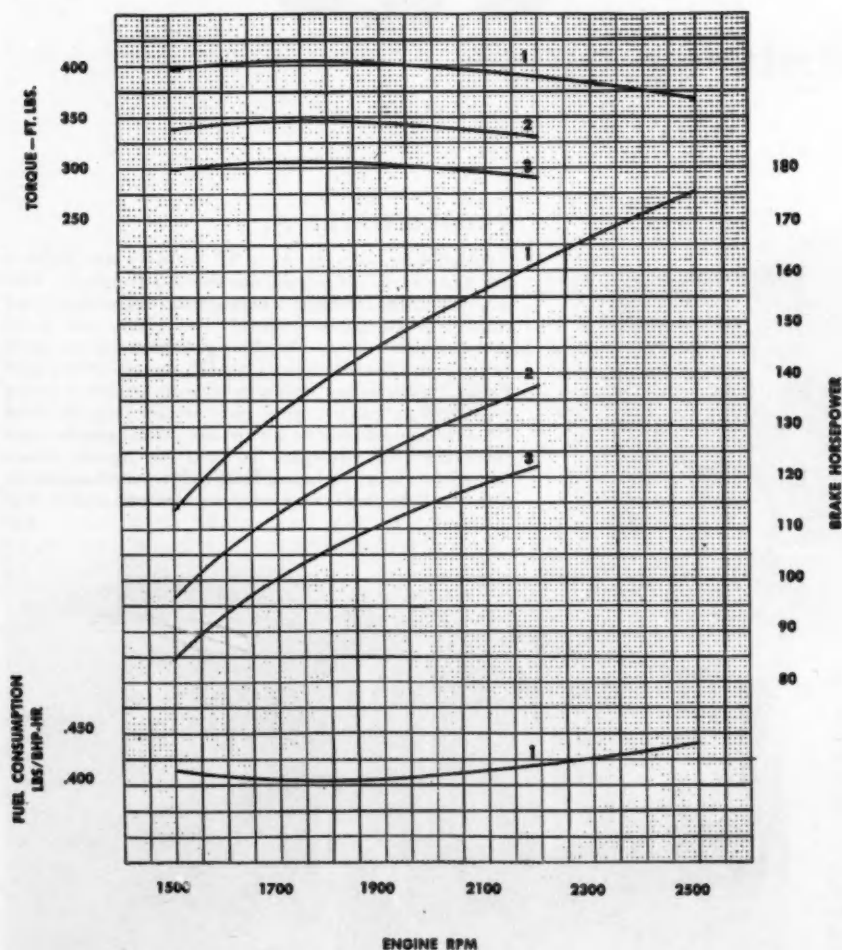


Cummins Turbodiesel

Cuts Weight by 800 lb

This JT-6 utilizes exhaust gas to power a turbine to draw fresh air into intake manifold. Developing 175 hp, this engine weighs only 1615 lb, or 9.2 lb per hp

Above right. The JT-6 available from several truck makers. Below. Power curve. Curve 1 shows horsepower. Curve 2, rating for industrial applications. Curve 3, suggested rating for continuous duty applications



A NEW lightweight, 175 hp Turbodiesel has been announced by Cummins Engine Co., Inc. This new Turbodiesel, designated the JT-6, is a 6 cyl, in-line type with 4 $\frac{1}{8}$ -in. bore, 5-in. stroke and displacement of 401 cu in. Installed in a truck, the JT-6 engine weighs only 1615 lb or 9.2 lb per horsepower. The JT-6 Turbodiesel weighs 800 lb less than other Cummins diesels of equivalent horsepower, and is comparable in weight to gasoline engines of similar power.

This design utilizes the normally wasted energy of the exhaust gas to create added power. This is accomplished by piping the exhaust through a turbine which is one element of the turbo-charger. Expansion directs the exhaust gas against the turbine blades causing the wheel to rotate at high speed. A centrifugal impeller, mounted on the same shaft, but in a separate housing, draws fresh air and blows it into the intake manifold and cylinders under pressure. More weight of fresh air is forced into the cylinders and a greater quantity of fuel can be burned completely. This creates more power at the fly-wheel. The JT-6 develops 40 per

(TURN TO PAGE 160, PLEASE)

Commercial Truckers, Inc.,

Racine, Wisconsin



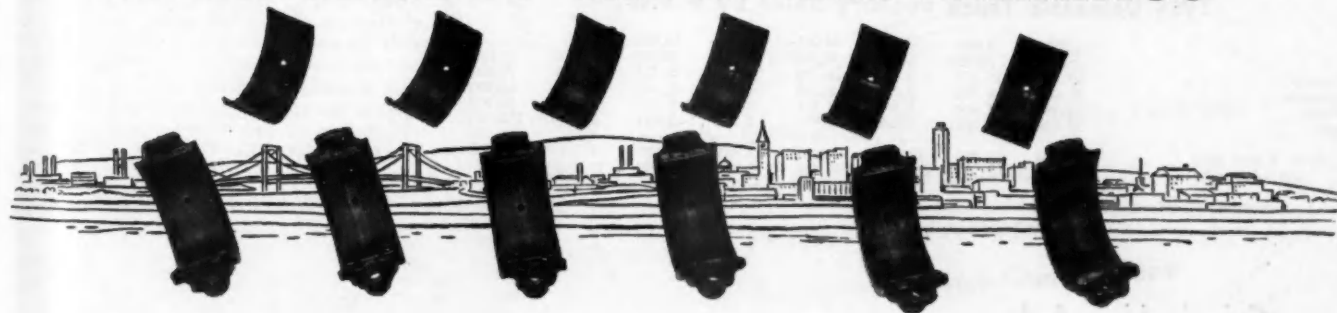
AFTER 150,000 MILES—THE PISTONS



AFTER 150,000 MILES—THE PAN



AFTER 150,000 MILES—THE BEARINGS



CITIES SERVICE LUBRICATION is a big part of the story behind this report about an International L 185 Truck from Commercial Truckers, Inc. Using Cities Service C-900 Motor Oil, they've enjoyed excellent results for their entire 32-vehicle fleet, which averages close to 50,000 miles per year, per truck.

CITIES SERVICE

QUALITY PETROLEUM PRODUCTS

JULY NEWS ROUNDUP

Protective Coating

Pennsylvania Salt Mfg. Co.'s Corrosion Engineering Dept. announces availability of a low-cost trial kit of "Thick-Coat," its new resin coating product to provide a durable protective coating for new or corroded metal, concrete and wood surfaces exposed to fumes, corrosive atmospheres and spillage of destructive chemicals. It is applied like regular maintenance paint by brush, roller or spray as it comes from the can. "Thick-Coat" is regularly offered in white, green, slate gray, silver gray, and black and may be obtained in other colors on special order. Additional information and trial kits are available on request to Corrosion Engineering Dept., Pennsylvania Salt

Mfg. Co., 1000 Widener Bldg., Philadelphia 7, Pa.

Flexible Plastic Lining

A new vertically ribbed flexible plastic lining for refrigerated trailers called "Flex-Tuff," has been introduced by Trailmobile Inc. Trailmobile claims the flexibility will reduce damage and leakage caused by fracturing. "Flex-Tuff" linings weigh about the same as plywood linings, and Trailmobile says it will stay flexible at temperatures as low as 10 deg below zero. The lining can be steam cleaned. The lining is formed from U. S. Rubber's "Royalite," a thermoplastic blend of plastic and synthetic rubber. It carries the acceptance of the U. S. Department of Agriculture.

"Partners in Safety"

Dorsey Trailers has given its full support to the 101-day "Partners in Safety" campaign conducted by the ATA Council of Safety which coincides with the "Slow Down and Live" campaign sponsored by the governors of the 48 states. Dorsey Trailers purchased a large quantity of the "Partners in Safety" and "Slow Down and Live" stickers when the safety campaign was announced. The twin stickers are placed on the rear doors of every trailer before they go out of the gate onto the highway.

(TURN TO PAGE 98, PLEASE)

Dow Award Winner



Colin Dobell, director of transportation safety and training for the British Columbia Electric Railway Co., Ltd., has been chosen winner of the 1954 Marcus A. Dow Memorial Award, the National Safety Council has announced. The Award, established by the Council and sponsored by the Greyhound Corp. to recognize, reward and foster high standards of professional achievement in the field of motor transportation safety, consists of a plaque and \$500 cash. Dobell has been engaged in accident prevention work for B. C. Electric for 15 years and has headed the transportation training department since 1947. Under his direction, the company's fleet of some 1700 vehicles had a 27 per cent reduction in accident frequency from 1946 to 1955. Dobell is a member of the board of directors and a past president of the Vancouver Traffic and Safety Council. He organized the local Assn. of Fleet Supervisors. He was elected general chairman of the National Safety Council's Transit Section in 1952. Another of his contributions to fleet safety was a comprehensive accident prevention program offered with his personal assistance to any trucking firm wishing to avail itself of this service. Dobell was honored in 1949 by the Vancouver Junior Chamber of Commerce.

1955 Domestic Truck Factory Sales by G.V.W.*

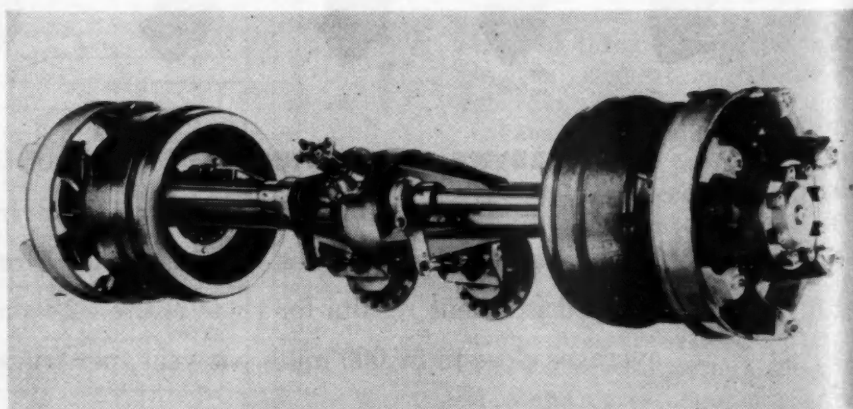
	5,000 lb. and less	5,001-10,000	10,001-14,000	14,001-18,000	18,001-25,000	25,001-35,000	Over 35,000	Total
January.....	37,040	12,271	3,300	12,018	3,176	2,784	3,363	73,949
February.....	25,500	9,113	2,319	9,045	2,808	2,910	3,558	55,253
March.....	43,294	14,454	3,543	14,836	2,671	2,958	4,314	86,070
April.....	55,955	17,933	4,146	19,041	3,926	3,574	5,630	110,205
Total—4 Mos. 1955.....	161,789	53,771	13,308	54,937	12,581	12,226	16,865	325,477
Total—4 Mos. 1954.....	150,087	60,385	12,771	55,095	11,572	17,802	12,912	320,624

*—Automobile Manufacturers Association.

Grico's Live Axle for Trailers

THIS NEW axle, designed and engineered by Grico, is a live axle with a load capacity of 18,000 lb and furnishes power for refrigerator equipment, fans, pumps and other mechanical devices for trailers. Grico says it offers a weight savings of approximately 500 lb over previous methods used. The complete axle weight with wheels is approximately 950 lb.

Because of tubular construction,



says Grico, the "Power Converter" axle is easily installed in practically all trailer suspensions, either single or dual. Grico has engineered this

axle around standard parts so that service field requirements can be fulfilled quickly and easily in most any town.

KRAFT[®] SYSTEM RECAPPING A GENERAL TIRE SERVICE



YOUR KEY TO PLUS-PROFIT MILEAGE!



KRAFT System Recapping is the proved way of getting the absolute maximum in low-cost mileage from your fleet. At your service from coast-to-coast, KRAFT is the one business-like operation that delivers every last payload penny from your tires. All it takes is a call to your General Tire Distributor—Headquarters for every Truck Tire Service.

**KRAFT—THE ONE NATIONAL RECAPPING SYSTEM
DESIGNED BY TRUCK TIRE MEN FOR TRUCKMEN**

- ★ Extra long mileage, top-quality materials
- ★ Factory-approved equipment
- ★ Factory-trained recappers
- ★ Guaranteed service Coast-to-Coast



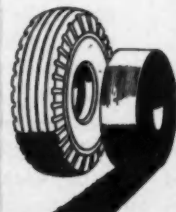
CERTIFIED INSPECTION
Provides full assurance that tires can be recapped safely!



ACCURATE BUFFING
Precision-done for better adhesion of tread to tire body!



EXPERT BALANCING
This step alone can mean up to 25% more low-cost mileage!



NEW TIRE RUBBER
The same high-quality tread rubber used in new General Tires!

**KRAFT SYSTEM
RECAPPING IS
AUTHORIZED
ONLY BY THE
GENERAL
TIRE & RUBBER
COMPANY**

July News Roundup

Continued from Page 96



... **Ralph N. Nutter**, promoted to Midwest zone fleet sales supervisor, Dodge Division, Chrysler Corp., Detroit.

... **Karl A. Roesch**, promoted to general manager, Autocar Division, The White Motor Co., Exton, Pa.



... **John G. Thompson**, rejoins as parts and services director, Four Wheel Drive Auto Co., Clintonville, Wis.

... **O. Franklin Frost**, appointed gen-

1955 Truck Trailer Shipments*

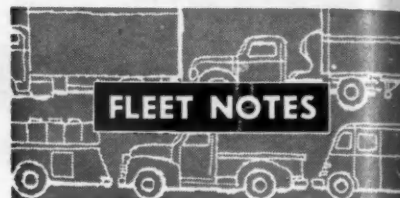
	April	Four Months
Vans:		
Insulated and Refrigerated:		
Steel.....	148	453
Aluminum.....	399	1,206
Furniture:		
Steel.....	220	646
Aluminum.....	43	71
All other closed-top vans:		
Steel.....	719	2,625
Aluminum.....	1,843	6,957
Open-top:		
Steel.....	125	407
Aluminum.....	161	554
Total—Value.....	3,656	12,921
Tanks:		
Petroleum.....	372	1,348
All other.....	63	215
Total—Tanks.....	435	1,563
Pole, Pipe and Logging:		
Single Axle.....	65	229
Tandem Axle.....	152	432
Total.....	217	661
Platforms:		
Racks, livestock and stake.....	94	404
Grain bodies.....	115	304
Platforms (flats), all types.....	461	2,083
Total—Platform.....	670	2,791
Low-bed heavy haulers.....	316	978
Dump trailers.....	192	543
All other trailers.....	338	1,489
Total—Complete Trailers.....	5,826	20,946
Chassis only.....	526	1,133
Total—Trailers and Chassis.....	6,352	22,079

*—Industry Division, Bureau of the Census.

eral merchandising manager, AC Spark Plug Division, General Motors Corp., Flint, Mich.

... **George A. Bilque**, **Keith D. Bullock**, **Merritt N. Eade**, **Dale W. Graves**, **James I. Hurley**, **Charles M. Keller**, **Edwin A. McAdams**, **Rolland S. Swain** and **William H. Witham**, promoted to regional managers—trucks in the Cincinnati, Ohio, Denver, Colo., Omaha, Nebr., Detroit, Boston, Mass., Greens-

boro, N. C., Minneapolis, Minn., Kansas City, Mo., and Philadelphia regions respectively, Dodge Division, Corp., Detroit.



Campbell "66" Express, Springfield, Mo., and its trademark, "Snortin' Norton" the camel, were featured in a story in the May issue of International Trail, monthly magazine published by International Harvester Co.

Winners in the Michigan State Truck Safety Contest, sponsored by Trailmobile, were **Refiners Transport and Terminal Corp.**, Detroit, **Automobile Carriers, Inc.**, Flint, and **F. J. Boutell Driveaway Co.**, Flint, in their respective categories. Special certificates went to **Wagoner Transportation Co.**, Muskegon, and **The Geo. F. Alger Co.**, Detroit.

Consolidated Freightways, Portland, Ore., reports that 22 drivers based at Dickinson, N. D., have completed 2 million consecutive miles of driving without an accident.

Winners in the Georgia State Truck Safety Contest, sponsored by Trailmobile, were **Gordon Foods**, Atlanta, **Clorox Chemical Co.**, Atlanta, and **Petroleum Carrier Corp.**, Jacksonville, Fla.

(TURN TO PAGE 172, PLEASE)

Oshkosh 4-Wheel Drive Ready Mix Concrete Truck



A NEW 4-WHEEL drive ready-mixed concrete carrier, designed to carry a payload of 18,000 lb on each axle, is now being manufactured by the Oshkosh Motor Truck, Inc., Oshkosh, Wis. The entire engine is cantilevered forward of the front wheels providing ready access to the

engine for service and repair work.

The Oshkosh "50-50" ready-mix concrete carrier hauls up to 5 cu yd legally, depending on the mixer selected, with sufficient water for ready-mixed concrete operation. The 4-wheel drive feature provides traction for spotting loads where they are wanted without building temporary roads and permits operation under adverse weather conditions. The carrier has a 144-in. wheel base and is equipped with Vickers power steering which acts directly with only one drag link.

Attention has been given in the design to driver comfort with the Bostrom driver's seat, front mounted shock absorbers, and visibility provided by tinted safety-plate wind-

shield and rear corner windows. Cab heater provides comfort in cold weather.

The Continental 141-hp engine, the exposed power steering unit and the horizontally mounted differential units may be serviced without removing the mixer from the chassis. Oshkosh standard parts are used throughout.

Automatic locking center differential compensates for difference in travel between front and rear axles to prevent tire scuffing. 14:00 x 20, 18-ply single tires are used on the front wheels. Front axle is a double reduction, full floating axle with alloy steel, heat-treated shafts designed to carry 18,000 lb or 50 per cent of the gross load and provide practically the same flotation on the front as the four 10:00 x 20 12-ply tires do on the rear. The rear axle is a single reduction full floating hypoid axle with alloy steel heat-treated shafts.



USE

SHULER AXLES



THERE ARE NO BETTER AXLES, AT ANY PRICE!

Since 1915, Manufacturers of: *One-Piece* Tubular and Square Commercial Trailer Axles, Heavy-Duty Front Axles for Trucks, Busses, and Off-Highway Equipment, Low-Bed Machinery Trailer Axles, Heavy-Duty Vacuum and Air Brakes, Miscellaneous Forgings.

SHULER AXLE COMPANY, Incorporated, LOUISVILLE, KENTUCKY

SUBSIDIARY OF FULLER MANUFACTURING COMPANY

SALES OFFICES in DETROIT, CHICAGO, OAKLAND and TULSA

WEST COAST WAREHOUSE
Oakland, California

SOUTHWEST WAREHOUSE
Fort Worth, Texas

1955 New Truck Registrations by Makes by States*

STATE AND MONTH	Brock- way	Chev- rolet	Dia- mond T	Dodge	Ford	G.M.C.	Internat- ional	Mack	Reo	Stude- baker	White	Willys Jeep	Willys Truck	All Others	Total
Alabama	Apr. 665	3	71	577	139	157	20	5	12	15	6	7	4	1,681	
4 Mos. 1,974	9	375	1,946	420	537	43	8	35	61	21	27	18	5,474		
Arizona	Apr. 145	2	46	201	57	38	1	11	3	13	21	2	540		
4 Mos. 491	3	184	569	155	161	6	3	30	19	36	69	20	1,746		
Arkansas	Apr. 572	2	61	594	116	127	4	26	6	8	5	1,821			
4 Mos. 1,541	8	290	1,943	383	435	12	4	71	23	28	14	4,752			
California	Apr. 2,552	35	758	2,583	631	556	37	17	126	119	165	199	190	7,868	
4 Mos. 7,032	34	79	2,246	8,662	1,967	1,745	118	44	381	299	351	686	386	24,119	
Colorado	Apr. 283	1	82	395	87	134	37	6	18	14	65	72	21	1,215	
4 Mos. 956	6	298	1,134	268	383	46	16	55	28	166	237	73	3,666		
Connecticut	Apr. 268	8	47	173	40	82	22	1	10	15	10	21	11	649	
4 Mos. 930	1	22	193	590	134	258	53	10	26	67	26	57	27	2,002	
Delaware	Apr. 70	1	11	48	7	56	24	1	12	1	2	3	6	232	
4 Mos. 242	2	1	68	184	59	147	124	1	4	36	4	3	81	881	
District of Columbia	Apr. 57	9	62	6	24	3	2	1	2	2	1	2	2	168	
4 Mos. 194	2	65	213	28	78	4	12	1	2	2	7	8	616		
Florida	Apr. 711	6	124	881	116	188	37	22	33	36	38	62	27	2,281	
4 Mos. 2,322	22	575	3,054	596	740	146	43	133	172	125	211	62	8,201		
Georgia	Apr. 392	2	91	547	76	93	20	7	18	10	7	9	5	1,272	
4 Mos. 2,502	11	673	2,994	564	733	87	17	107	104	42	32	5	7,871		
Idaho	Apr. 151	1	52	217	52	111	5	1	23	9	25	44	3	684	
4 Mos. 417	5	156	513	171	280	13	4	51	17	53	119	14	1,813		
Illinois	Apr. 900	32	242	1,051	155	498	26	7	50	34	50	47	39	3,131	
4 Mos. 3,103	145	1,001	4,101	659	2,214	99	60	157	206	117	153	110	12,125		
Indiana	Apr. 818	8	145	827	121	380	38	8	66	33	14	19	13	2,480	
4 Mos. 2,393	29	592	2,699	437	1,476	60	30	282	189	45	70	62	6,364		
Iowa	Apr. 531	9	73	497	54	307	3	2	20	10	5	7	2	1,522	
4 Mos. 1,531	31	359	1,919	224	1,151	35	7	69	47	24	47	35	5,481		
Kansas	Apr. 684	4	72	662	98	208	8	16	16	11	6	25	3	1,787	
4 Mos. 1,815	10	264	1,845	324	733	1	16	64	39	24	71	5	5,211		
Kentucky	Apr. 486	2	58	445	105	135	5	1	25	10	18	15	2	1,307	
4 Mos. 1,650	7	261	1,566	368	490	28	5	63	57	60	61	18	4,634		
Louisiana	Apr. 737	2	78	722	114	163	6	2	17	25	14	8	3	1,888	
4 Mos. 2,235	8	367	2,560	409	689	22	2	107	65	56	29	4	6,553		
Maine	Apr. 145	1	45	156	16	59	8	12	8	9	21	5	485		
4 Mos. 399	1	91	401	93	165	19	1	29	18	36	71	9	1,334		
Maryland	Apr. 310	4	71	413	37	155	34	8	21	25	1	11	5	1,087	
4 Mos. 839	24	271	1,057	134	417	84	12	46	60	24	44	20	3,038		
Massachusetts	Apr. 355	8	90	514	52	145	43	8	19	47	16	29	11	1,345	
4 Mos. 1,004	38	265	1,554	173	478	109	26	40	134	59	107	45	4,046		
Michigan	Apr. 1,167	17	231	1,326	250	259	34	13	17	33	23	44	17	3,431	
4 Mos. 3,365	56	954	4,619	798	812	68	41	83	96	62	127	111	11,212		
Minnesota	Apr. 680	13	105	659	79	196	14	5	29	6	8	23	9	1,826	
4 Mos. 1,581	25	339	1,997	266	751	24	10	78	26	38	91	32	5,258		
Mississippi	Apr. 572	1	68	532	106	132	8	3	17	1	7	6	3	1,442	
4 Mos. 1,861	1	270	1,885	421	523	8	3	73	12	17	36	3	5,110		
Missouri	Apr. 757	20	98	751	94	228	8	3	19	24	17	10	6	2,035	
4 Mos. 2,681	67	495	2,774	513	1,051	21	9	72	101	38	53	26	7,801		
Montana	Apr. 127	5	45	160	39	77	2	1	21	3	8	32	8	523	
4 Mos. 438	5	177	573	159	301	16	2	59	18	64	184	21	2,012		
Nebraska	Apr. 328	5	55	314	57	179	9	9	14	17	10	22	8	1,018	
4 Mos. 1,080	50	270	1,345	226	719	12	12	53	48	38	91	104	4,050		
Nevada	Apr. 35	13	48	20	16	1	1	13	1	15	17	1	179		
4 Mos. 139	91	209	72	148	1	1	1	48	1	23	59	3	795		
New Hampshire	Apr. 103	1	18	79	19	8	1	8	3	12	18	1	285		
4 Mos. 231	13	72	272	36	72	18	2	20	6	23	42	6	801		
New Jersey	Apr. 618	13	120	623	155	201	38	7	16	46	7	39	36	1,933	
4 Mos. 1,594	48	650	1,980	522	714	145	20	67	224	45	114	106	6,290		
New Mexico	Apr. 253	3	38	256	37	59	11	1	7	2	5	11	1	684	
4 Mos. 630	9	151	612	151	184	21	1	31	8	32	55	7	1,892		
New York	Apr. 1,133	23	342	1,358	264	784	146	46	63	123	61	107	53	4,555	
4 Mos. 3,255	116	1,672	3,752	1,013	2,324	401	139	165	451	222	400	257	14,335		
North Carolina	Apr. 633	4	100	667	102	140	27	4	35	26	11	8	3	1,782	
4 Mos. 2,083	19	507	2,425	417	559	116	7	114	114	55	44	18	6,476		
North Dakota	Apr. 123	2	29	149	35	118	1	4	1	3	5	5	467		
4 Mos. 232	1	110	350	97	357	1	1	12	2	9	20	1	1,190		
Ohio	Apr. 1,215	23	237	1,275	202	516	57	31	39	94	40	48	56	3,333	
4 Mos. 3,370	48	949	4,488	577	1,924	163	61	139	307	128	173	150	12,459		
Oklahoma	Apr. 516	1	68	598	73	225	10	1	21	15	3	12	6	1,540	
4 Mos. 1,565	8	288	1,817	352	895	30	3	56	55	18	38	14	4,832		
Oregon	Apr. 262	8	87	396	88	119	18	4	28	41	32	79	37	1,199	
4 Mos. 935	19	298	1,226	323	467	41	12	81	63	101	284	89	3,959		
Pennsylvania	Apr. 991	21	262	1,243	146	544	62	25	45	76	5	82	15	3,530	
4 Mos. 2,763	48	1,068	3,804	564	2,017	280	81	172	271	21	319	62	11,537		
Rhode Island	Apr. 83	5	15	93	8	43	3	2	7	7	2	7	3	276	
4 Mos. 252	18	50	320	25	140	17	5	12	20	5	13	9	887		
South Carolina	Apr. 309	4	45	345	45	65	16	11	9	8	6	1	680		
4 Mos. 883	4	207	1,041	152	223	31	1	30	40	14	11	1	2,637		
South Dakota	Apr. 146	5	31	191	37	145	9	6	6	2	6	25	595		
4 Mos. 400	10	120	569	121	447	2	2	22	10	36	71	1	1,808		
Tennessee	Apr. 472	5	98	516	94	139	9	2	16	21	11	5	2	1,388	
4 Mos. 1,658	11	471	1,961	395	591	27	10	59	86	31	24	15	5,326		
Texas	Apr. 1,948	16	288	2,885	308	706	43	16	85	162	41	44	15	6,555	
4 Mos. 6,474	42	1,163	7,466	1,065	2,230	89	21	241	396	155	144	39	19,545		
Utah	Apr. 107	4	47	149	35	68	6	1	11	3	13	36	9	489	
4 Mos. 239	4	138	360	114	156	7	3	23	5	44	84	16	1,193		
Vermont	Apr. 77	1	36	93	34	46	2	3	4	19	34	1	350		
4 Mos. 188	4	69	220	60	147	5	5								

* Data from R. L. Polk & Co.

MAKE AN
Only Domestic Truck

OPTIONAL
For the express purpose
truck to the individual
models listed can be
tional engines, trans
and these

CCJ's Truck Specifications

COMPILED FROM DATA SUPPLIED EACH MONTH BY MANUFACTURERS

KEY TO DEFINITIONS

MAKE AND MODEL

Only Domestic Truck Models are listed.

OPTIONAL UNITS

For the express purpose of best fitting the truck to the individual job most of the models listed can be provided with optional engines, transmissions, axles, etc., and these models when so equipped are considered standard stock models.

CHASSIS LIST PRICE

The chassis list price applies to the minimum standard wheelbase with standard tires and standard equipment. All prices are F.O.B. factory. Chassis list price does not include the price of the Cab unless otherwise noted.

RECOMMENDED

GROSS VEHICLE WEIGHT FOR NORMAL SERVICE

The Gross Weights published herewith are

those supplied by manufacturers as their Recommended Gross Vehicle Weights for Normal Operating Conditions, and are based upon the Maximum Authorized Tire Size listed. In actual practice the manufacturer may either increase or decrease the gross vehicle weight rating when either favorable or unfavorable operating conditions are involved. Since the proper performance of a motor truck depends upon many factors, including grades, road conditions, etc., the gross weights that a manufacturer is prepared to recommend will vary with particular conditions, and the manufacturer's own standard of safety factors. Specific recommendations, therefore, should be obtained from the manufacturer's representative.

CHASSIS WEIGHT

The chassis weight listed includes the weight of the minimum standard wheelbase chassis, with cowl, with standard tires, with standard equipment, with crankcase and cooling system full, and 5 gallons of fuel in the tank. It does not include the

weight of the Cab. This applies to C.O.E. as well as conventional chassis types. Exceptions are noted.

STANDARD TIRE SIZE

The standard tire size listed is that which is included in the Chassis List Price.

MAXIMUM AUTHORIZED TIRE SIZE

The tire size listed in this column is the maximum size recommended by the manufacturer of the chassis for the Gross Vehicle Weight for Normal Operating Conditions. It is furnished at extra cost, if it differs from the standard size. Dual rears are understood; exceptions noted.

MINIMUM STANDARD WHEELBASE

The minimum standard wheelbase is the so-called standard wheelbase on which the Chassis List Price is based.

MAXIMUM STANDARD WHEELBASE

The maximum standard wheelbase is the extreme end of the standard range of wheelbases offered by the chassis maker.

MAXIMUM BRAKE HP.

Maximum Brake Horsepower at Given R.P.M. is actual dynamometer reading without accessories.

GEAR RATIO RANGE

Gear Ratio Range in High—Ratios within the range given are available at no extra cost. Exceptions are noted.

TRACTORS

Unless given the designation (N)—meaning not available as a tractor—all standard models may be assumed to be available as tractors. Exclusively Tractor models are designated (T).

KEY TO ABBREVIATIONS

MAKES—ALL

B—Bendix.
BL—Brown-Lipe.
Bu or Bud—Buda.
BW—Bendix-Westinghouse.
C—Chevrolet.
Cl or Cla—Clark.
Con—Continental.
Cu or Cum—Cummins-Diesel.
Eat—Eaton.
F—Ford.
Fu—Fuller.
G-H—Goodyear-Hawley type.
H—Hotchkiss.
Her—Hercules.
HS—Holt-Scott.
Int—International Harvester.
L—Lockheed.
LeR—LeRoll.
LH—Lockheed front, Wagner "hi-Tork" rear.
LT—Lockheed type front Timken rear.
LW—Lockheed front, Wisconsin rear.
M—Midland.
N.P.—New Process.
O or Ow—Own.
Op or Opt—Optional.
Shu—Shuler.
Spl—Spicer.
T or Tim—Timken-Detroit Axle Co.

Tw—Timken-Detroit—Westinghouse.
TW—Timken-Detroit—Wisconsin.
Var—Variable.
WG—Wagner Gear.
Wau—Waukesha.
W or Wis—Wisconsin.
WE—Wagner Electric.
Wg—Wagner "hi-Tork."
Ws—Westinghouse.
WW—Westinghouse or Wagner

WHEELS DRIVEN

2F—Forward unit of Rear Axle Group.
2R—Rear Unit of Rear Axle Group.
4R—Forward and rear units of Rear Axle Group.
6—All wheels.

BRAKES—SERVICE

Location
4—Four wheels, front and rear.
4r—Four wheels, rear only.

Type

I—Internal.

X—External.

Operation

A—Air.

H—Hydraulic.

V—Vacuum.
D or Dp—Dual Primary.

BRAKES—HAND

Location

C—Center of double propeller shaft.
2—Rear wheels.
4—Four wheels.
6—Six wheels.
P—Back of Power Divider.
J—Jackshaft.
T—Transmission.
F—Driveshaft.

Type

D—Tru-Stop disk.
I—Internal.
M—Mechanical.
X—External.
PD—Two drums on rear of power divider.
F—Mechanical, foot operated

BRAKE DRUMS

Material

a—Cast alloy iron.
A—American Car Foundry.
c—Cast iron.
Co—Composite Front, Cast iron in rear.
Co—Centrifuge.

CI—Copper iron.
Co—Composite.
CX—Front, centrifugal cast; rear, composite.
D—Dayton.
E—Ermalite.
G—Gunite.
N—Nickel iron.
S—Steel.

(Where a combination of any of the above is used, the first reference mark applies to the front and the second to the rear drums.)

FRAME

Type

C—Channel.
T—Channel tapered front and rear.
L—Channel reinforced with liner.
B—Channel reinforced with both liner and fishplate.
P—Channel reinforced with plate.
TL—Channel tapered front and rear reinforced with liner.
D—Drop Center.
Tt—Tapered front.
A—Straight section sidemembers, lined with oak inserts.

Z—Reinforced (X) member frame, box type sections.
BG—Box girder.
H—Heat treated.

REAR AXLE

Final Drive and Type

R—Bevel.
CD—Chain Drive.
F—Full-floating.
H or Hy—Hypoid.
d—Dual range axle.
2—Double Reduction.
S—Spiral bevel.
W—Worm.
3/4—Three Quarters Floating.
1/2—Semi-floating.
T—Torque Tube.

GEAR RATIOS

(**) Only one ratio.

Drive and Torque

H—Hotchkiss (springs).
R—Radius Rods.
L—Parallel Torque Rods.
T—Torque Arm.

GOVERNOR STANDARD

V—Yes.

N—No.

KEY TO REFERENCES

c.f.—Cab Forward design.
c.o.e.—Cab-Over-Engine design.
(D)—Diesel-engine equipped.
(T)—Designed for tractor use only.
(C)—Ford or Chevrolet Models.
(R)—Remanufactured Ford.
*—Denotes "Includes Cab" when used with weights or prices.

AVAILABLE

*—Conventional or C.O.E. available.
†—Air brakes available.
‡—Two or three speed auxiliary transmission available.
▲—Two speed rear axle available.

CHEVROLET

†—Includes spare tire, full fuel tank and cooling system.
▲—7.50/20 can be used on the front with no decrease in GVW when 8.25/20 are used on dual rear wheels.
▲—8.25/20 front tires are required when 9.00/20 dual rears are used.
▲—7.50/20 front tires are required when 8.25/20 tires are used on rear.
†—Blue Flame 136" optional.
‡—Loadmaster" engine optional.
▲—Jobmaster" engine optional.
††—Theoretical I.D. (Journal diameter plus clearance) front 2.8855; front center 2.7165; rear center 2.7475; rear 2.7785. Total effective

length (overall length minus chamfers) 3.747.
‡—Theoretical I.D. (Journal diameter plus clearance) front 2.3014; 2nd 2.3004; 3rd 2.3004; 4th 2.3004; rear 2.3004. Total effective length (overall length minus chamfers) 3.968.

†—Overdrive optional.
†—Powerglide optional.
†—Synchro-mesh 3-speed H.D. optional.
†—4-speed synchro-mesh transmission optional.
†—4.11 available with optional overdrive; 3.55 available with optional powerglide.
†—7.20 available.
†—Two-speed rear axle available.
†—3400, 3500 and 3700 TM brakes as options.
†—Hydraulic available.
†—4.11 available with optional overdrive.
†—1800GV available with optional heavy duty equipment.

DODGE

▲—Front only; Rear 7.00/16S.
▲—Front only; Rear 8.25/16S.
▲—Front only; Rear 7.50/20.
▲—Front only; Rear 9.00/20.
†—Front only; Rear 10.00/20.
†—Front only; Rear 8.25/20.
†—Two speed rear axle available.
†—Overdrive available.

DUPLEX

†—Torque Divider, Timken T70-2 speed.

FABCO

††—See same footnote under Chevrolet.
†—With 2-speed transfer case.
RC—Chevrolet axle remanufactured.
RF—Ford axle remanufactured.

FORD

▲—17000 for 220" Wheelbase.
▲—Rear Only.
▲—Front Only; Rear 8.25/188.
†—Cowl Axle Dimension.
†—9.25x2.94x.25 Optional.
▲—Weight Includes Cab.
††—With dual rear wheels only; 118-3800 hp and 195 torque with single wheels.

KENWORTH

††—Timken T13129 PA Trail-ling Axle.
†—14.00/24, front; 16.00/24, rear.
▲—C.O.E. optional.
▲—One man cab.
▲—Torque converter plus Torqueomatic transmission optional.
▲—Cab beside engine optional.
†—Both C.O.E. and cab beside engine optional.
††—14.00/24 front; 18.00/25 rear.
▲—Cummins NHRBSID 600.
††—Allison TCL 654 plus TG 607.

MARMON-HERRINGTON

▲—132" w.b. only; 154" w.b., 9 1/4 x 2 1/4 x 1 1/4.
†—With single wheels; 10,200 with dual wheels.

NAPCO

▲—NAPCO—Federal Truck Div., Northwestern Auto Parts Company (Chevrolet 4-wheel drive conversion).
††—See same footnote under Chevrolet.

OSHKOSH

▲—Includes cab.
▲—1091 cu. in.
▲—Hydraulic coupling optional.
▲—Dependent upon engine.

REO

▲—Model 331-OA and 331-OA LPG engines can be furnished.
†—Two speed axle available.
▲—Double reduction and 2 speed available.
▲—Buda 6DTS-468 diesel engine available.
†—Model 255-OA-LPG or 292-OA engine can be furnished.
†—Front only; Rear 10.00/20.
†—OH-160 or OH-160 LPG engine can be furnished.
▲—OH-160LPG engine can be furnished.
▲—Model OV-220 engine can be furnished.
▲—Model OV-225 engine can be furnished.
††—Model SQW tandem axle can be furnished.

STUDEBAKER

▲—H.D. 6.20 or 6.80 optional.
▲—Two speed 5.93-8.10 optional.
▲—Two speed 6.48-8.86 optional.
†—Front only; Rear 8.25/20D.
†—Front, centrifugal cast; rear, composite.
†—Reinforcing plate at rear of frame.

TRUCKSTELL

▲—Single front, dual rear.
††—With 3 speed power divider.
▲—Weight with cab and maximum tires.
†—Including slip-over reinforcing frame channels.
†—Air brake optional.

WARD LA FRANCE

†—Available with optional rear axle.
▲—Available with 11.00/22 or 12.00/20 tires for G.V.W. of 60,000 lbs and optional front and rear axles.

▲—Auxiliary transmission, Fuller 3A65, 3B65, 3A92 and 3B92.

WILLYS

▲—Complete vehicle-Pick-up Type body.
†—Three speed transmission, 2 speed transfer case.

(Turn to Next Page, Please)

Line Number	MAKE AND MODEL	CHASSIS LIST PRICE		WHEEL-BASE	TIRE SIZES		CHASSIS WEIGHT (See definition)	TIRE SIZES		ENGINE DETAILS					TRANS-MISSION		REAR AXLE		FRONT AXLE		BRAKES					C-A Dimensions (Min. Std. W. B.)	FRAME																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
		Minimum Standard	Maximum Standard		Gross Vehicle Weight For Normal Service	Standard Rear		Maximum Tire Size (Duals un-noted)	Dual rear Single rear	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	H.P. at R.P.M.	Given	Number and Diameter	Main Bearing	Governor Standard	Make and Model	Clear and Type	Drive & Torque	Clear Ratio	Range in High	Make and Model	Location Type			Operation	Lining Area	Drum Area	Hand Location	Hand Type																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
1	Available	*200	Opt	16500	4700/7.0/20D	8.25/20	Wau 195GL	6-3 1/4 x 4	285.6	2.220	76	2400/4	2-4 1/2 x 7	5-Tim E1000H	HF	H	**	-6	20	Tim 32514	LAHV	316	529	TX	48	9 1/2 x 3 1/2	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1

(Turn to Page 106, Please)

Los Angeles
644 National
COMMERCIAL C

Los Angeles
644 National
COMMERCIAL C



C. L. Brown, President, Salem Navigation Co., Salem, Oregon.

"...a very special motor oil, Union T5X."

"For some time I have wanted to express my appreciation for a very special motor oil, Union's T5X.

"I had heard about your 'grape juice' from several other truck operators, and when we purchased a new NHB Cummins powered Mack truck and trailer three years ago, we decided to start out with T5X.

"Results have been most satisfactory... the Mack which hauls a 76,000 lb. gross load of bulk petroleum in the Portland, Oregon, area has now operated in excess of 205,000 miles. My drivers tell me that the unit runs like new, and in looking over the service reports

and operational sheets I find that mechanical costs have been very low. A recent independent laboratory's analysis of our used oil (we change every 3,000 miles) showed negative results on oxidation and dilution tests.

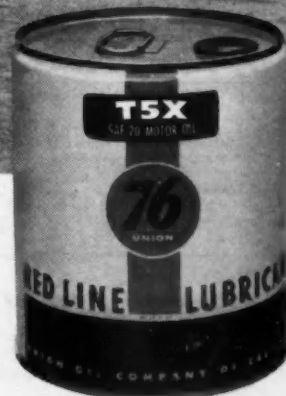
"As business men we're interested in results, and T5X is doing a fine job of protecting a piece of \$25,000 equipment. We heartily recommend T5X to anyone confronted with heavy-duty lubrication problems."

T5X, the amazing purple motor oil, is immediately available from your nearby Union Oil representative. Next time you change oil, change to T5X.



UNION OIL COMPANY OF CALIFORNIA

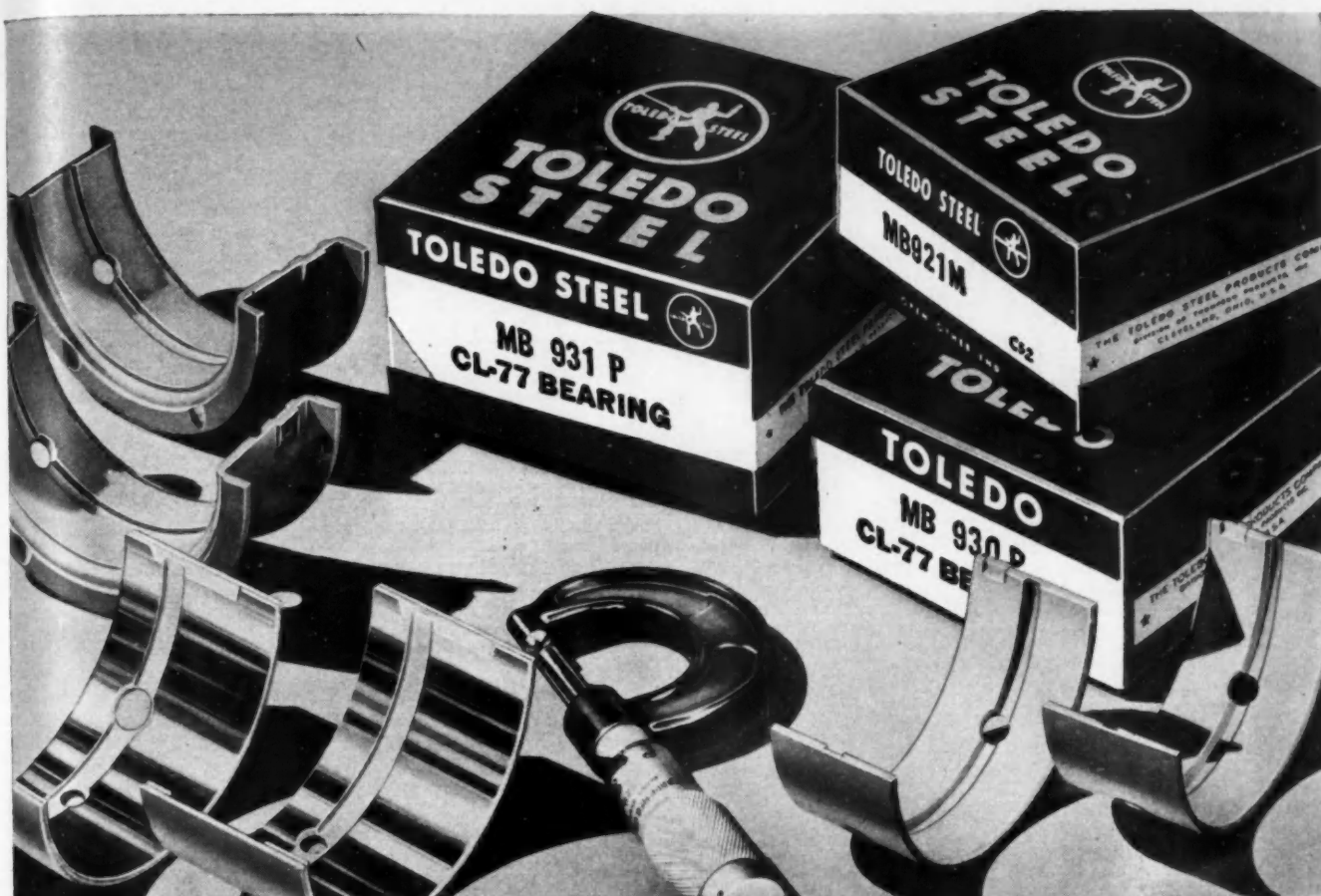
Los Angeles: Union Oil Bldg. • New York: 45 Rockefeller Plaza • Chicago: 1612 Bankers Bldg. • New Orleans:
644 National Bank of Commerce Bldg. • Atlanta: 401 Atlanta National Bldg. • Kansas City, Mo.: 612 W. 47th St.



(Turn to Page 108, Please)

COMMERCIAL C



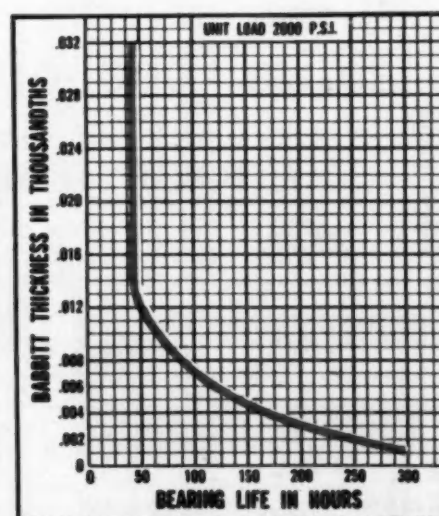


INSTALL TOLEDO MICRO AND CL-77 BEARINGS... ORIGINAL EQUIPMENT IN MORE ENGINES THAN ANY OTHER TYPE

● It is no accident that engine designers specify Micro* and CL-77* bearings. Often, the entire engine is designed around the specifications these bearings make possible. Therefore, when replacing bearings, you are assured of the proper fit, correct tolerances, and exactly right oil clearances when you replace with identical Micro and

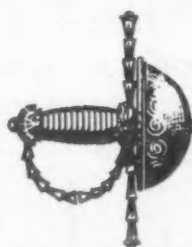
CL-77. You can get them in standard sizes or in proper undersizes to fit any engine.

The Micro principle assures maximum resistance to fatigue. And the .001 plated surface of the CL-77 bearing has ideal surface properties and corrosion resistance to give the longest life of any bearings obtainable.



The real value of the micro principle is illustrated in this chart. The fatigue-life of a bearing is inversely proportional to its thickness. The thinner the bearing surface, the greater its fatigue strength and the longer it will last.


*Trademarks of Clevite Corp.



TOLEDO STEEL PRODUCTS

6402 CEDAR AVENUE • CLEVELAND 3, OHIO

Division of Thompson Products, Inc.

[illegible]

Wa

Profit-cutting
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TELEPHONE

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Watson Bros. keeps down "no-load" miles with Bell System communications

Profit-cutting, no-load mileage is held to a minimum by a network of seven Bell System private line telephone and teletypewriter services. Watson Bros., of Omaha, Neb., depends on these reliable communications for control and co-ordination of its 2400-unit fleet.

Over this private line network flows a continual stream of dispatching information and reports.

Routine business and emergencies are handled quickly and smoothly. All rolling stock is utilized most efficiently.

To see how Bell System communications can give you greater efficiency, economy and smoother operations, let us survey your communications. There is no obligation. Call your Bell Telephone representative today.



Watson Bros. uses these Bell System Services

- Three teletypewriter circuits radiating 2769 miles out of Omaha to 20 points in an 8-state area.
- Four private line telephone circuits connecting important Watson terminals.
- Long Distance and Teletypewriter Exchange Service supplement the basic private line facilities.

BELL TELEPHONE SYSTEM



TELEPHONE

TELETYPEWRITER

MOBILE RADIO

Continued from Page 1087

Line Number	MAKE AND MODEL	Chassis List Price	WHEEL-BASE Minimum Standard	TIRE SIZES Standard (See definition)	TIRE SIZES Dual rear S-single rear	MAKE AND MODEL	ENGINE DETAILS					TRANS- MISSION		REAR AXLE		FRONT AXLE	BRAKES				FRAME					
							No. of Cylinders	Displacement	Comp. Ratio	Torque lb. ft.	H.P. at R.P.M.	Main Bearings	Number and Diameter	Make and Model	Governor Standard		Make and Model	Forward Speeds	Make and Model	Gear and Type		Drive & Torque	Gear Ratio	Make and Model	Location Type	Lining Area
1	Studebaker - Cont'd						6-3	2467	5.204	106	3400-4	2-1/2x5	4-1/2x16	4-Own	HF	H6 20-6	80 Own	WE41H	367	553	Co	TX	184 3/4x23 1/2x14 1/2	T		
2	Studebaker - Cont'd						6-3	2567	5.204	106	3400-4	2-1/2x5	4-1/2x16	4-Own	HF	H6 20-6	80 Own	WE41H	367	553	Co	TX	184 3/4x23 1/2x14 1/2	T		
3	Studebaker - Cont'd						6-3	2567	5.204	106	3400-4	2-1/2x5	4-1/2x16	4-Own	HF	H6 20-6	80 Own	WE41H	367	553	Co	TX	184 3/4x23 1/2x14 1/2	T		
4	Studebaker - Cont'd						6-3	2567	5.204	106	3400-4	2-1/2x5	4-1/2x16	4-Own	HF	H6 20-6	80 Own	WE41H	367	553	Co	TX	184 3/4x23 1/2x14 1/2	T		
5	Studebaker - Cont'd						6-3	2567	5.204	106	3400-4	2-1/2x5	4-1/2x16	4-Own	HF	H6 20-6	80 Own	WE41H	367	553	Co	TX	184 3/4x23 1/2x14 1/2	T		
6	Studebaker - Cont'd						6-3	2567	5.204	106	3400-4	2-1/2x5	4-1/2x16	4-Own	HF	H6 20-6	80 Own	WE41H	367	553	Co	TX	184 3/4x23 1/2x14 1/2	T		
7	Studebaker - Cont'd						6-3	2567	5.204	106	3400-4	2-1/2x5	4-1/2x16	4-Own	HF	H6 20-6	80 Own	WE41H	367	553	Co	TX	184 3/4x23 1/2x14 1/2	T		
8	White-Freightliner (e.o.e.), WF-42		115	120	10600/10.00/20	Cum NHB	6-5 1/2x6	743 13	57	5200	2100-7	4-1/2x16 1/2	4-Own	8Tm R-330	SFD	H4 77-6	38Tm FE900	O4r1A	645	1050	a	TD	73	8 1/2x3 1/2x3 1/2	D	
Four-Wheel-Drive																										
9	Biederman . PM62		162	162	15040/10.00/20	Cum NEHB600	6-5 1/2x6	743 16	53	5200	2100-7	4-1/2x13 1/2	YFu R960C	10Tm SW345SP	WVF	L	** -8.17Tm FE900	BW61A	1052	1699	G	TD	62	10x3 1/2	B	
10	Coleman . G-55		150	160	12000/11.00/20	Buda LO-825	6-4 1/2x5 1/2	525 56	7400	150	2200-7	3-7/8x7	YFu SA650	4OW-289-CM	2	7.17 -9.72OW	7.17 -9.72OW	TW1A	598	921	FD	FD	84	10x3 1/2	C	
11	Coleman . G-55		150	160	12000/11.00/20	Wau LOCG	6-4 1/2x5 1/2	525 56	7400	150	2200-7	3-7/8x7	YFu SA650	4OW-289-CM	2	7.17 -9.72OW	7.17 -9.72OW	TW1A	598	921	FD	FD	84	10x3 1/2	C	
12	(D)		150	160	13000/11.00/20	Cum HB600	6-4 1/2x5 1/2	673 17	500	150	1800-7	4-1/2x16 1/2	YFu SA650	4OW-289-CM	2	7.17 -9.72OW	7.17 -9.72OW	O41H	231	355	TX	TX	52	10 1/2x2 1/2x6 1/2	C	
13	Dodge . C-3-PW6		126	126	9500	3950/7.50/168	9.00/168	6-3 1/2x4 1/2	2367	3191	103	3600-4	2-1/2x4 1/2	YNP 85790	4Own T-137	HyF	H1 89-5	53 Own T-137	O41H	231	355	TX	TX	52	10 1/2x2 1/2x6 1/2	C
14	Fabco (e) . FD50A		114	128	8500	3800/6.00/16	6.50/16	6-3 1/2x4 1/2	2367	5200	112	3700-4	4	N Chevrolet*	Chevrolet	H 1/2	** -3.9	Own RC	O41H	158	269	Co	21F	39	5 1/2	C
15	Fabco (e) . FD50B		114	128	8500	3800/6.00/16	6.50/16	6-3 1/2x4 1/2	2367	5200	112	3700-4	4	N Chevrolet*	Chevrolet	H 1/2	** -3.9	Own RC	O41H	158	269	Co	21F	39	5 1/2	C
16	Fabco (e) . FD50B		114	128	8500	3800/6.00/16	6.50/16	6-3 1/2x4 1/2	2367	5200	112	3700-4	4	N Chevrolet*	Chevrolet	H 1/2	** -3.9	Own RC	O41H	158	269	Co	21F	39	5 1/2	C
17	(e) . FD50A		114	128	8500	3800/6.00/16	6.50/16	6-3 1/2x4 1/2	2367	5200	112	3700-4	4	N Chevrolet*	Chevrolet	H 1/2	** -3.9	Own RC	O41H	158	269	Co	21F	39	5 1/2	C
18	(e) . FD50A		114	128	8500	3800/6.00/16	6.50/16	6-3 1/2x4 1/2	2367	5200	112	3700-4	4	N Chevrolet*	Chevrolet	H 1/2	** -3.9	Own RC	O41H	158	269	Co	21F	39	5 1/2	C
19	(e) . FD50B		114	128	8500	3800/6.00/16	6.50/16	6-3 1/2x4 1/2	2367	5200	112	3700-4	4	N Chevrolet*	Chevrolet	H 1/2	** -3.9	Own RC	O41H	158	269	Co	21F	39	5 1/2	C
20	(e) . FD50B		114	128	8500	3800/6.00/16	6.50/16	6-3 1/2x4 1/2	2367	5200	112	3700-4	4	N Chevrolet*	Chevrolet	H 1/2	** -3.9	Own RC	O41H	158	269	Co	21F	39	5 1/2	C
21	(e) . FD50B		114	128	8500	3800/6.00/16	6.50/16	6-3 1/2x4 1/2	2367	5200	112	3700-4	4	N Chevrolet*	Chevrolet	H 1/2	** -3.9	Own RC	O41H	158	269	Co	21F	39	5 1/2	C
22	(e) . FD50B		114	128	8500	3800/6.00/16	6.50/16	6-3 1/2x4 1/2	2367	5200	112	3700-4	4	N Chevrolet*	Chevrolet	H 1/2	** -3.9	Own RC	O41H	158	269	Co	21F	39	5 1/2	C
23	(e) . FD50B		114	128	8500	3800/6.00/16	6.50/16	6-3 1/2x4 1/2	2367	5200	112	3700-4	4	N Chevrolet*	Chevrolet	H 1/2	** -3.9	Own RC	O41H	158	269	Co	21F	39	5 1/2	C
24	(e) . FD50B		114	128	8500	3800/6.00/16	6.50/16	6-3 1/2x4 1/2	2367	5200	112	3700-4	4	N Chevrolet*	Chevrolet	H 1/2	** -3.9	Own RC	O41H	158	269	Co	21F	39	5 1/2	C
25	(e) . FD50B		114	128	8500	3800/6.00/16	6.50/16	6-3 1/2x4 1/2	2367	5200	112	3700-4	4	N Chevrolet*	Chevrolet	H 1/2	** -3.9	Own RC	O41H	158	269	Co	21F	39	5 1/2	C
26	(e) . FD50B		114	128	8500	3800/6.00/16	6.50/16	6-3 1/2x4 1/2	2367	5200	112	3700-4	4	N Chevrolet*	Chevrolet	H 1/2	** -3.9	Own RC	O41H	158	269	Co	21F	39	5 1/2	C
27	Federal . T-600R-1		157	205	44000	12600/10.00/20	11.00/22	6-4 1/2x4 1/2	4276	4350	170	3000-7	2-1/2x13 1/2	YClu 290V	8Tm SQD	H2	L 75-9	51Tm FE900	TW1A	1073	1550	a	D	84	10 1/2x3 1/2x4 1/2	P
28	Federal . T-600R-1		157	205	44000	12600/10.00/20	11.00/22	6-4 1/2x4 1/2	4276	4350	170	3000-7	2-1/2x13 1/2	YClu 290V	8Tm SQD	H2	L 75-9	51Tm FE900	TW1A	1073	1550	a	D	84	10 1/2x3 1/2x4 1/2	P
29	Federal . T-600R-1		157	216	45000	18750/11.00/22	12.00/24	6-4 1/2x4 1/2	5016	5113	182	2500-7	3-1/2x14 1/2	YClu SA65	5Tm SW4400	H2	L 80-10	6Tm TW461	TW1A	1308	1858	a	D	84	10 1/2x3 1/2x4 1/2	P
30	Federal . T-600R-1		157	216	45000	18750/11.00/22	12.00/24	6-4 1/2x4 1/2	5016	5113	182	2500-7	3-1/2x14 1/2	YClu SA65	5Tm SW4400	H2	L 80-10	6Tm TW461	TW1A	1308	1858	a	D	84	10 1/2x3 1/2x4 1/2	P
31	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
32	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
33	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
34	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
35	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
36	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
37	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
38	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
39	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
40	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
41	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
42	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
43	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
44	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
45	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
46	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9A	8Tm 53547	SF	H ** -6.07	Tm F30	TW1H	324	518	a	TD	72	8 1/2x3 1/2	T
47	FWD . LD		136	184	14500	4500/6.50/20	9.00/20	6-3 1/2x4 1/2	2366	7190	97	3200-7	2-1/2x10 1/2	YWG T9												

See Now to References and Abbreviations See Page 103

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J&L's JAL
strength, lo

JALTEN **I**
cating—go

JALTEN **I**
resistance

JALTEN **I**

For Key to References and Abbreviations See Page 103
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Line Number	MAKE MODEL	Chassis List P.	Minimum Standard	Maximum Standard	Gross Vehicle Weight (See definition for Normal Set.)	Standard Front and Rear (Pounds noted)	Maximum Authorized Tire Size (Pounds noted)	Make and Model	No. of Cylinders, Bore and Stroke	Displacement	Comp. Ratio	Torque lb. ft.	Max. Brake H.P. at R.P.M.	Number and Diameter	Governor Stan-	Make and Model	Forward Speed	Make and Model	Gear and Type	Drive & Torque	Gear Ratio	Range in High	Make and Location	Operation Type	Linking Area	Drum Area	Hand Material	Type	C-A Dimension (Min. Std. W.)	Side Rail Dimensions	Type			
1	Duplex (D)	TH6 RH-6	162	220	30000	9180/8.25/20	9.00/20	Her WXL33	6-4 1/4 x 4 1/4	3206	2240	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10			
2	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	
3	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
4	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
5	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
6	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
7	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
8	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
9	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
10	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
11	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
12	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
13	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
14	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
15	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
16	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
17	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
18	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
19	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
20	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
21	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
22	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
23	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
24	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
25	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
26	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
27	Fabco (c) (D)	FD2001A FD2001B FD2001C FD2001D	160	208	30000	15000/11.00/20	12.00/20	Her WXL33	6-4 1/4 x 4 1/4	4045	8312	113-3000/7	2-1 x 10 1/2	Yul SA433	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10	10
28	Kenworth (D)	D422	191	255	43000	12250/10.00/20	11.00/22	Cum HRB-600	6-5 1/2 x 6	7316	5401	165-1800/7	4-1 x 16	Yul SA433	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	
29	Kenworth (D)	D422	191	255	43000	12250/10.00/20	11.00/22	Cum HRB-600	6-5 1/2 x 6	7316	5401	165-1800/7	4-1 x 16	Yul SA433	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
30	Kenworth (D)	D422	191	255	43000	12250/10.00/20	11.00/22	Cum HRB-600	6-5 1/2 x 6	7316	5401	165-1800/7	4-1 x 16	Yul SA433	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
31	Kenworth (D)	D422	191	255	43000	12250/10.00/20	11.00/22	Cum HRB-600	6-5 1/2 x 6	7316	5401	165-1800/7	4-1 x 16	Yul SA433	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
32	Kenworth (D)	D422	191	255	43000	12250/10.00/20	11.00/22	Cum HRB-600	6-5 1/2 x 6	7316	5401	165-1800/7	4-1 x 16	Yul SA433	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
33	Kenworth (D)	D422	191	255	43000	12250/10.00/20	11.00/22	Cum HRB-600	6-5 1/2 x 6	7316	5401	165-1800/7	4-1 x 16	Yul SA433	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
34	Kenworth (D)	D422	191	255	43000	12250/10.00/20	11.00/22	Cum HRB-600	6-5 1/2 x 6	7316	5401	165-1800/7	4-1 x 16	Yul SA433	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
35	Kenworth (D)	D422	191	255	43000	12250/10.00/20	11.00/22	Cum HRB-600	6-5 1/2 x 6	7316	5401	165-1800/7	4-1 x 16	Yul SA433	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12
36	Kenworth (D)	D422	191	255	43000	12250/10.00/20	11.00/22	Cum HRB-600	6-5 1/2 x 6	7316	5401	165-1800/7	4-1 x 16	Yul SA433	12	12	12	12	12	12	12	12	12	12	12	12								

Turn to Page 116, Please)

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FRAM keeps oil and engines cleaner... longer. FRAM is engineered for *extra-high* filter efficiency to guard precision parts against engine-killing dirt, sludge and abrasives. FRAM Filters and Cartridges cut engine wear... reduce breakdowns, overhauls and repairs! See your FRAM Dealer today for the best life insurance your engines can have!



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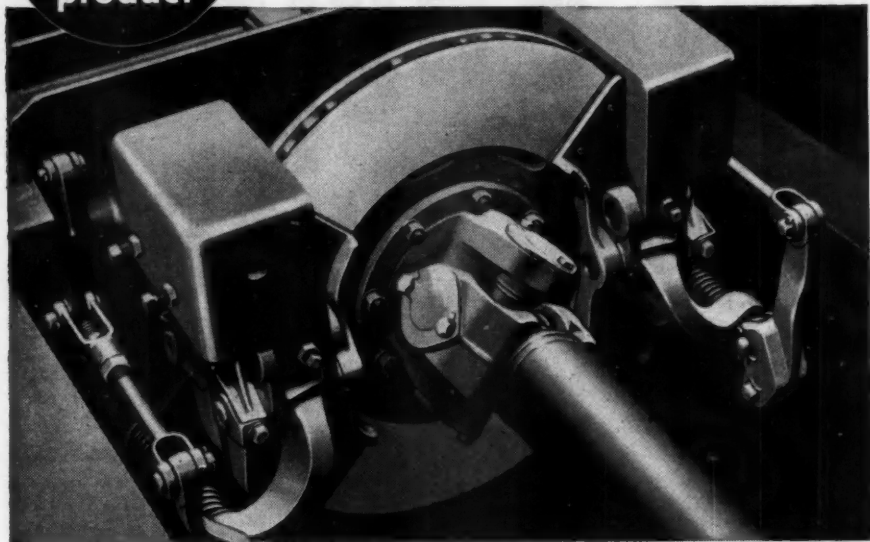
FRAM CORPORATION, Providence 16, R. I., Fram Canada Ltd., Stratford, Ont.

For Key to References and Abbreviations See Page 103

71 72 73 74 75 76 77 78 79 80 81 82 83 84 85 86 87 88 89 90 91 92 93 94 95 96 97 98 99 100 101 102 103 104 105 106 107 108 109 110 111 112 113 114 115 116 117 118 119 120 121 122 123 124 125 126 127 128 129 130 131 132 133 134 135 136 137 138 139 140 141 142 143 144 145 146 147 148 149 150 151 152 153 154 155 156 157 158 159 160 161 162 163 164 165 166 167 168 169 170 171 172 173 174 175 176 177 178 179 180 181 182 183 184 185 186 187 188 189 190 191 192 193 194 195 196 197 198 199 200 201 202 203 204 205 206 207 208 209 210 211 212 213 214 215 216 217 218 219 220 221 222 223 224 225 226 227 228 229 230 231 232 233 234 235 236 237 238 239 240 241 242 243 244 245 246 247 248 249 250 251 252 253 254 255 256 257 258 259 260 261 262 263 264 265 266 267 268 269 270 271 272 273 274 275 276 277 278 279 280 281 282 283 284 285 286 287 288 289 290 291 292 293 294 295 296 297 298 299 300 301 302 303 304 305 306 307 308 309 310 311 312 313 314 315 316 317 318 319 320 321 322 323 324 325 326 327 328 329 330 331 332 333 334 335 336 337 338 339 340 341 342 343 344 345 346 347 348 349 350 351 352 353 354 355 356 357 358 359 360 361 362 363 364 365 366 367 368 369 370 371 372 373 374 375 376 377 378 379 380 381 382 383 384 385 386 387 388 389 390 391 392 393 394 395 396 397 398 399 400 401 402 403 404 405 406 407 408 409 410 411 412 413 414 415 416 417 418 419 420 421 422 423 424 425 426 427 428 429 430 431 432 433 434 435 436 437 438 439 440 441 442 443 444 445 446 447 448 449 450 451 452 453 454 455 456 457 458 459 460 461 462 463 464 465 466 467 468 469 470 471 472 473 474 475 476 477 478 479 480 481 482 483 484 485 486 487 488 489 490 491 492 493 494 495 496 497 498 499 500 501 502 503 504 505 506 507 508 509 510 511 512 513 514 515 516 517 518 519 520 521 522 523 524 525 526 527 528 529 530 531 532 533 534 535 536 537 538 539 540 541 542 543 544 545 546 547 548 549 550 551 552 553 554 555 556 557 558 559 560 561 562 563 564 565 566 567 568 569 570 571 572 573 574 575 576 577 578 579 580 581 582 583 584 585 586 587 588 589 590 591 592 593 594 595 596 597 598 599 600 601 602 603 604 605 606 607 608 609 610 611 612 613 614 615 616 617 618 619 620 621 622 623 624 625 626 627 628 629 630 631 632 633 634 635 636 637 638 639 640 641 642 643 644 645 646 647 648 649 650 651 652 653 654 655 656 657 658 659 660 661 662 663 664 665 666 667 668 669 670 671 672 673 674 675 676 677 678 679 680 681 682 683 684 685 686 687 688 689 690 691 692 693 694 695 696 697 698 699 700 701 702 703 704 705 706 707 708 709 710 711 712 713 714 715 716 717 718 719 720 721 722 723 724 725 726 727 728 729 730 731 732 733 734 735 736 737 738 739 740 741 742 743 744 745 746 747 748 749 750 751 752 753 754 755 756 757 758 759 760 761 762 763 764 765 766 767 768 769 770 771 772 773 774 775 776 777 778 779 780 781 782 783 784 785 786 787 788 789 790 791 792 793 794 795 796 797 798 799 800 801 802 803 804 805 806 807 808 809 810 811 812 813 814 815 816 817 818 819 820 821 822 823 824 825 826 827 828 829 830 831 832 833 834 835 836 837 838 839 840 841 842 843 844 845 846 847 848 849 850 851 852 853 854 855 856 857 858 859 860 861 862 863 864 865 866 867 868 869 870 871 872 873 874 875 876 877 878 879 880 881 882 883 884 885 886 887 888 889 890 891 892 893 894 895 896 897 898 899 900 901 902 903 904 905 906 907 908 909 910 911 912 913 914 915 916 917 918 919 920 921 922 923 924 925 926 927 928 929 930 931 932 933 934 935 936 937 938 939 940 941 942 943 944 945 946 947 948 949 950 951 952 953 954 955 956 957 958 959 960 961 962 963 964 965 966 967 968 969 970 971 972 973 974 975 976 977 978 979 980 981 982 983 984 985 986 987 988 989 990 991 992 993 994 995 996 997 998 999 1000



Tru-Stop Emergency Brakes



Here's why it pays to specify TRU-STOPS

• Leading manufacturers of Trucks, Buses and Tractors offer TRU-STOP Emergency Brakes, either as standard or optional equipment, to secure for their customers:

Real Emergency Braking. TRU-STOPS are real emergency brakes—not just “parking brakes.” They serve as auxiliary brakes on long down-grades and can bring the vehicle to a smooth, quick stop if service brakes suddenly fail.

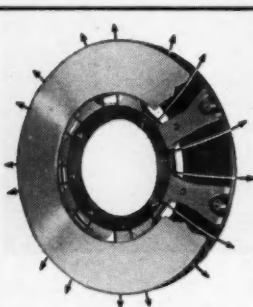
Good safety practice demands immediate deadlining of a vehicle after service brake failure. TRU-STOPS can do this and more. They can handle the vehicle with safety so it can be removed from the road.

Smooth, Positive Stops. TRU-STOPS prevent accidents by insuring quick, positive stops in emergency situations.

Positive Parking Brakes. TRU-STOPS hold safely on steep grades—prevent “parking brake” accidents.

Lower Service Requirements. TRU-STOPS are mounted directly on the drive shaft. Their simplicity of design and accessibility reduce maintenance requirements. Relining or adjustment is a simple job for any mechanic with ordinary tools. It is not necessary to drop drive shaft.

Specify TRU-STOPS for factory installation on your next vehicle.



Longer Lining Life

• The terrific heat generated in braking cuts lining life. TRU-STOPS quickly dissipate this heat. Most of the disc is exposed to the air even during braking. And a cooling jet of air circulates through the disc, prolongs lining life.

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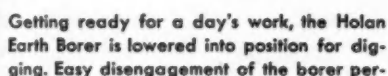


Automotive and Aircraft Division
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TRU-STOP
Emergency
Brakes

Continued from Page 114)																												
Line Number	MAKE AND MODEL	Chassis List Price		WHEEL- BASE		TIRE SIZES		ENGINE DETAILS										TRANS- MISSION		REAR AXLE			FRONT AXLE	BRAKES				FRAME
		Minimum	Maximum	Standard	Maximum	Standard	Maximum	Standard	Maximum	Displacement	Comp. Ratio	Torque lb. ft.	H.P. at R.P.M.	Number and Diameter Main Bearings	Governor Standard	Forward Speeds	Make and Model	Gear and Type	Drive & Torque	Gear Ratio	Make and Model	Operation Type		Lining Area	Drum Area	Drum Material	Hand Location Type	
1	Ward La Fr. DIT-1	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
2	Ward La Fr. DIT-2	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
3	Ward La Fr. DIT-3	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
4	Ward La Fr. DIT-4	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
5	Ward La Fr. DIT-5	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
6	Ward La Fr. DIT-6	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
7	Ward La Fr. DIT-7	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
8	Ward La Fr. DIT-8	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
9	Ward La Fr. DIT-9	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
10	Ward La Fr. DIT-10	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
11	Ward La Fr. DIT-11	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
12	Ward La Fr. DIT-12	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
13	Ward La Fr. DIT-13	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
14	Ward La Fr. DIT-14	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
15	Ward La Fr. DIT-15	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
16	Ward La Fr. DIT-16	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
17	Ward La Fr. DIT-17	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
18	Ward La Fr. DIT-18	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
19	Ward La Fr. DIT-19	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
20	Ward La Fr. DIT-20	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
21	Ward La Fr. DIT-21	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
22	Ward La Fr. DIT-22	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
23	Ward La Fr. DIT-23	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
24	Ward La Fr. DIT-24	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
25	Ward La Fr. DIT-25	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
26	Ward La Fr. DIT-26	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
27	Ward La Fr. DIT-27	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
28	Ward La Fr. DIT-28	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
29	Ward La Fr. DIT-29	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
30	Ward La Fr. DIT-30	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
31	Ward La Fr. DIT-31	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
32	Ward La Fr. DIT-32	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
33	Ward La Fr. DIT-33	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
34	Ward La Fr. DIT-34	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
35	Ward La Fr. DIT-35	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
36	Ward La Fr. DIT-36	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
37	Ward La Fr. DIT-37	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
38	Ward La Fr. DIT-38	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
39	Ward La Fr. DIT-39	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a	TD	154	10 1/2 x 3 1/4 x 3 1/4	DL			
40	Ward La Fr. DIT-40	180	220	10.00/20	11.00/20	39500	42000	13470	13470	10.00/20	11.00/20	Con NHB	6-5 1/2 x 6	7.3:1	57200-21007	4-1 1/2-10 1/2	Fu SA3344	15 Tm SD3010P	WF	FE900	9661450a							

See Key to References and Abbreviations See Page 103

mits the 6500 lb. capacity hydraulic derrick to go into action for pole setting. The entire unit, Model 7000 C-102, you'll find...

Watch the pay-dirt fly when this rugged helper fixes its hydraulic jacks and goes to work digging holes for you! It's all in a day's work for this four-in-one . . . saving you digging, pole-setting, and lifting dollars.

Utilities with tight budgets will undoubtedly want complete price information on this Thrift Line "7000" line construction body . . . with or without the power equipment. You can specify your own partitioning of compartments . . . even save more by ordering com-



EVEREE INN ROAD • GRIFFIN, GEORGIA

WHERE WORK SIMPLIFICATION EQUIPMENT COSTS LESS

Line construction bodies for light to heavy-duty. Crew compartments optional. Efficient tool compartments and drawers.



Service bodies for chassis up to 1½ ton. Lengths, 72", 84" and 102".



Hydraulic Derricks
designed for front
or rear mounting.
Capacities to 12,000
lb.



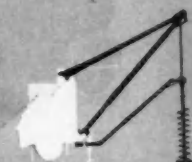
Ladders to 40' with all phases completely hydraulic. Pump actuated by P.T.O. or separate engine drive with electric starter. Available with "platform controls."



Mechanical Ladders
expertly engineered
and counter-
balanced for ef-
fortless handling.
Maximum heights
from 24' to 32'.
Swings 360°; an-
gles to 72°.



Light-duty power operated derricks for front or rear mounting. Operating range of 146°.



Portable mechanical and hydraulic earth borers with optional rotation.

Wide variety of pole and reel trailers. Standard and special. Many optional features.



Hydraulic jacks, controlled from rear of truck. Rigid mounted or patented Holan self-stowing types.



Hydraulic towers with rotary, stationary, or transverse platforms. Exclusive box-girder telescoping mast.

Dry-Type Filter Simplifies Maintenance

Continued from Page 90

tests of the dry-type filters on a number of our gasoline and diesel trucks.

Less Maintenance Time

First, maintenance time of the dry-type filter is considerably lessened. A check of an oil bath fil-

ter where the sump and element are removed and cleaned and the sump refilled with oil takes between 7-10 minutes. Our trucks with oil bath filters get this check at least once a month or every other oil change. Multiply this time by three when a diesel with triple-

mounted filters is concerned. When using the dry-type filter all of this is eliminated. When the filter element is dirty enough to result in pressure drop, we remove it and clean it with a compressed air jet.

To replace an element takes, at most, one minute, and depending on the amount of use, dust conditions, etc., the filters remain in good shape for many thousands of miles. Moreover, because of its simplified construction, the initial cost of the dry-type filter is low.

Less Allied Trouble

Another thing we discovered about the dry-type is that the connecting hose between the filter and the carburetor air intake on many gas trucks lasts indefinitely when this filter is used. There is no oil pullover to get into the hoses and cause any damage to the rubber.

Thirdly, we have had some trouble in the past with filters mounted on the firewalls on some of our models. The weight of the filter unit would result in damage to the rewall mount and occasional cracking. The much lighter dry-type filter with its impregnated paper element never has damaged a firewall. Another example of where lightness of the unit plays an important part is where the filter is mounted on top of the carburetor itself. Heavier filters will sometimes break the top of the carburetor when the engine is vibrating if the mounting is not fastened with extreme care after each servicing. The lighter dry-type unit is not heavy enough to break the top.

We find that the dry-type filter also results in a cleaner engine, as there is no oil to spill. Of course, when first used, mechanics have to be told that this type of filter does not require the addition of oil to make it work—as a matter of fact, we've had a couple of cases where men servicing the filter for the first time, without warning, did pour oil into the element and ruin it. But our men have long since become used to the dry-type filter and they like it. Psychologically, of course, any mechanic would prefer servicing the dry-type as there is no messiness in changing the element.

END

Please Resume Reading Page 92

COMMERCIAL CAR JOURNAL, July, 1955



STOP WASTING GASOLINE!

USE A
HANDY
GOVERNOR

KS

KING-SEELEY CORPORATION
ANN ARBOR, MICHIGAN

BT NEOP

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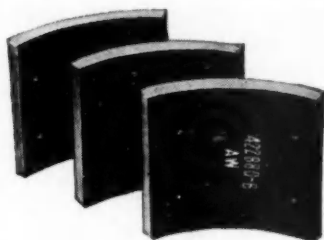
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long life.

COMMERCIAL CA



WAYS TO DECREASE DOWN-TIME...



THERMOID BRAKE BLOCKS

are engineered to meet the most rigid stopping tests, while providing maximum mileage, regardless of heat or operating conditions.



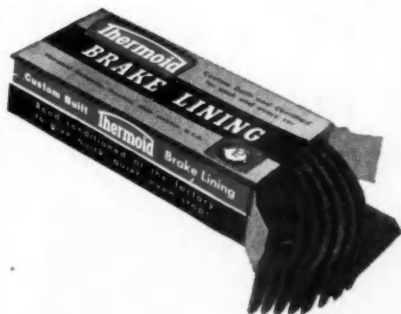
NEOPRENE-NYLON AIR BRAKE DIAPHRAGM

provides maximum protection against oil, abrasion, heat... stands up under flexing... resists "ballooning". Gives you more revenue miles between overhauls.



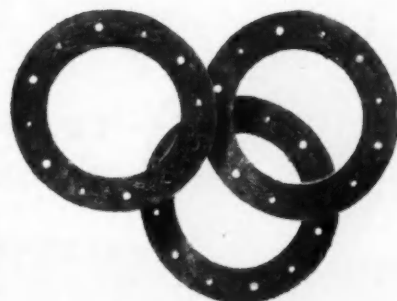
BT NEOPRENE RADIATOR HOSE

withstands 100° higher outside temperatures than ordinary hose... provides 4 times greater resistance to oil, grease and gas fumes.



HEAVY DUTY BRAKE LININGS

compounded under Thermoid's exclusive Dry Mix Process, have a density that makes them wear longer in the most severe service.



CLUTCH FACINGS

manufactured to the same industry-leading standards as Thermoid Brake Blocks and Heavy Duty Linings, provide smooth, positive engagement.



HEAVY DUTY HYDRAULIC BRAKE FLUID AND PARTS

withstand the toughest conditions. Thermoid HD Fluid meets or exceeds all SAE requirements. Brake Parts and cylinder assemblies are precision engineered for complete dependability and long life.



FAN BELTS WITH NEOPRENE COVERS

resist high under-hood temperatures, abrasive road dirt, oil and grease. Pre-stretching prevents sagging and premature wear.

Test these Thermoid products on the toughest job in your fleet!



Thermoid Company • Trenton, New Jersey
Brake Linings • Fan Belts • Radiator Hose • Hydraulic Brake Parts and Fluid • Car Mats • Clutch Facings • Thermoid Precision Process Equipment.

Safety Program Delivers the Goods

Continued from Page 83

lucky driver who gets himself a chargeable accident. The other drivers get on him, but good.

The next column in the score sheet is headed "Current Award Program" and merely refers to whether it is the first, second, third,

fourth and so on contest that they are in.

One Month to Go

Still dealing with Toronto and its 2-month contest period the next column is headed "Type A Months

Towards Current Award." On the score sheet being considered the figure 1 is typed in which means Toronto branch has put in one month without a single accident of any kind and so has only one more month to go to win its \$120.

The next three columns, under suitable headings, show that Toronto had no type B accidents either, the chargeable accidents, since they had no accidents of any type. So Toronto now has a credit of \$60, but they better look after the next month. A single chargeable accident and this is wiped out and Toronto starts all over again.

At the bottom of the score sheet we show the total amount of money that can be won by the combined branches, together with the total amount won by all branches combined so far during their assigned periods.

Toronto has 40 drivers. Brantford has only eight. Obviously Toronto faces a far greater accident hazard than does Brantford. To balance this inequality between branches, Toronto has only to go two months but Brantford seven months.

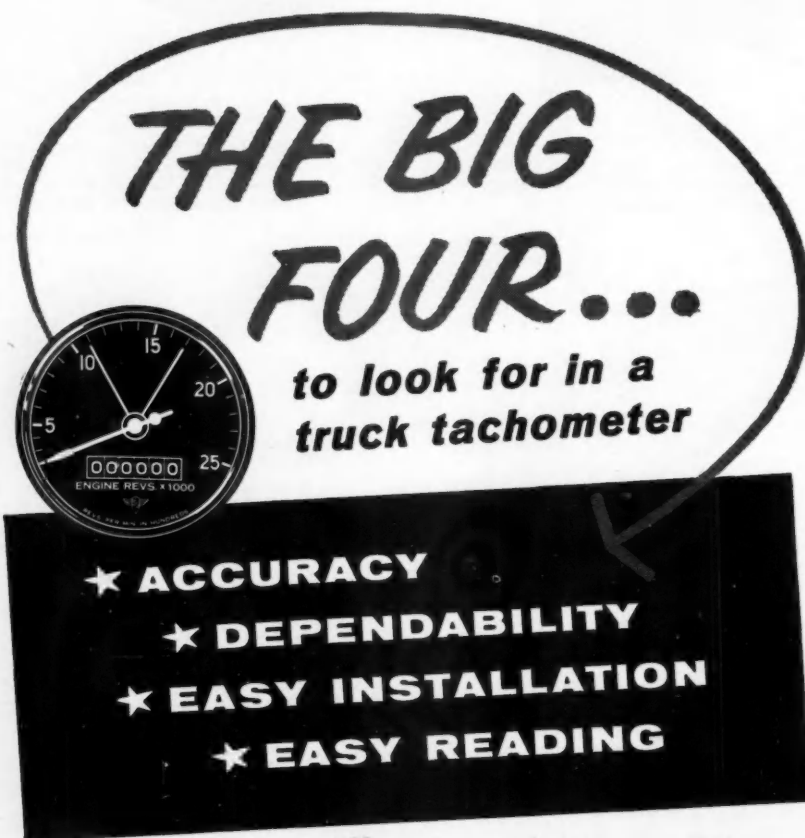
This puts the contest on a fair and even basis for each branch.

We tried to work out basis that would permit each branch to earn approximately the same money in approximately the same time-manpower period. For instance, 40 drivers can earn \$120 in Toronto in two months. Chatham can earn this in five months. But, if Sarnia or Brantford, with their few drivers, were figured on this basis it would take them ten months to earn \$120. So in these cases we simply reduced the time period down to seven months. After all, a contest that drags out for ten months is not one to keep drivers particularly interested. And drivers must be kept interested.

Drivers' Night Out

There is one last thing. None of this award money is distributed to the individual drivers. A rule is that the whole sum must be pooled and spent on an evening out for the entire driver personnel of the branch. Maybe it's a National League hockey game and dinner in Toronto, home of the Maple Leafs.

(TURN TO PAGE 124, PLEASE)



THE BIG FOUR...
to look for in a truck tachometer

- ★ ACCURACY
- ★ DEPENDABILITY
- ★ EASY INSTALLATION
- ★ EASY READING

All yours with Stewart-Warner ELECTRIC TACHOMETERS!

1. Accuracy. Positive electric drive assures accurate speed indication, with minimum over-run, at any speed, any temperature, and regardless of voltage variations in battery current.

2. Dependability. Designed and engineered for long, hard usage. Manufactured to highest standards of quality. No flexible shafts—no oscillators. Vibration proof.

3. Easy Installation. Easily installed without special tools and changes in vehicle's electrical system. Will not affect engine spark or timing at any speed.

4. Easy Reading. Large 3" diameter, illuminated face dial with full 270° pointer travel. Vibration-proof pointer assures quick, easy readings. Adjustable red markers remind driver to keep engine speeds within most efficient, economical range.

Exclusive Feature! Stewart-Warner's is the only electric tachometer with an odometer. (Records total engine revolutions.) Makes it possible to schedule maintenance and overhaul periods on the basis of engine use. Also gives an accurate measure of engine life.

See your Jobber or write:

STEWART-WARNER

Instrument Division

Dept. DD-75 • 1840 Diversey Parkway • Chicago 14, Illinois

"It's 100% Auto-Lite STA-FUL with Overnite!"

says J. H. Cochrane, Owner of Overnite Transportation Company, Richmond, Virginia. "All of our 300 trucks are equipped with STA-FUL, the batteries that need water only $\frac{1}{3}$ as often.

"For dependability, performance and economy, STA-FUL Batteries are the finest. Hauling cargo through the mountains of Virginia takes rugged, durable equipment and we have found that STA-FUL Batteries fill the bill in keeping our rigs on the road.

"For mile-after-mile, low-cost operation, we rely on and recommend Auto-Lite STA-FUL Batteries!"

Harwood Cochrane

Mr. J. H. Cochrane, Owner of Overnite Transportation Company, Richmond, Virginia
Mr. Cochrane's favorite hobby is raising prize-winning Black Angus Cattle on his 900-acre farm.



**You're always right
with Auto-Lite**

AUTO-LITE

BATTERIES

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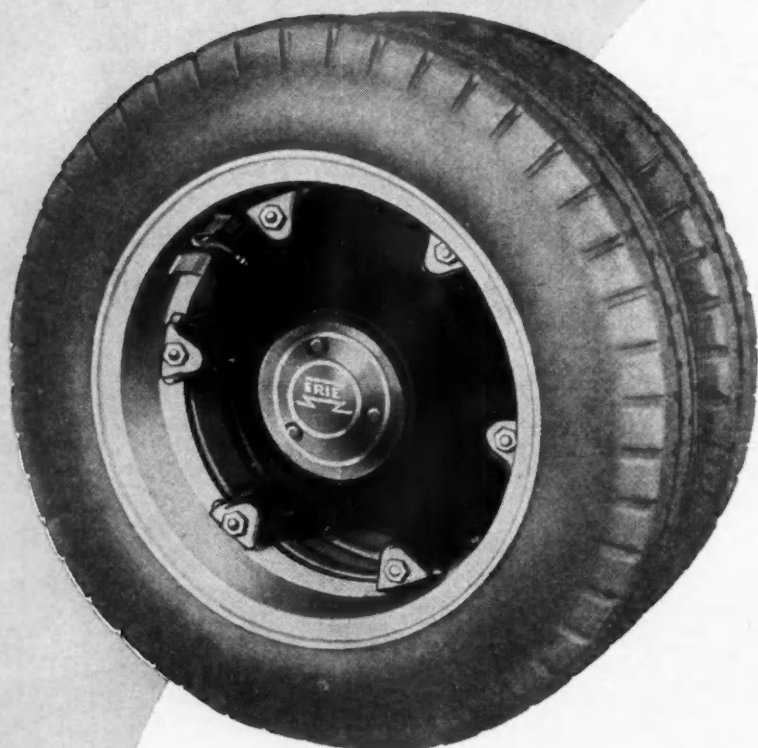
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Great
Strength...



Pound for pound, the tubular design of Erie Wheels gives you **greater strength** and **lighter weight** than any other wheel. This combination—great strength and light weight—is one of the many reasons why, mile after mile and over all kinds of roads, Erie Wheels will help you haul bigger payloads, more safely, at lower service cost.



IT COSTS NO MORE TO SPECIFY

ERIE

*Wheels
Brake Drums*

ERIE MALLEABLE IRON COMPANY • Erie, Pennsylvania

Safety Program Delivers...

Continued from Page 120

Maybe it's something else. But it's always a good bust where drivers and some company executives have a swell time, talk shop, get to really know one another. But executives don't dictate things. It's a Drivers' Night.

All through our safety work we have gone to some trouble to reward the good driver with something that he cherishes and that proves to the world that he is a good driver. One thing they like are the arm crests that we issue to the driver with no chargeable accidents every month. While they appreciate these crests and wear them proudly, they are just as happy with the mention we make of them in our little one-page internal newspaper which we issue to drivers once per month.

We call this paper "Operation Safety." It carries news and views on safety from our safety department. The news is timely, informative and as pertinent as we can make it. Drivers read this paper with much interest.

We also publish another little paper monthly, the "Windshield News" which goes to all our employees. This paper carries more general news concerning the truck business on a national or provincial or international scale, may contain some "shop talk," or set forth messages on company policy from one or more of the company executives. Or perhaps it will carry an announcement of a new award.

For instance, our October, 1954, issue of this paper carried on the front page a picture of the Overland Express Limited "Award of Merit" diploma which measures 8½ in. by 11 in. and is presented, framed, to some company employee earning it. Along with the award goes an "Award of Merit" arm patch similar to the crests we issue drivers.

Open to All

Any company employee can earn this award if the Award of Merit Review Board decides it has been earned. The award is not confined

(TURN TO PAGE 126, PLEASE)

COMMERCIAL CAR JOURNAL, July, 1955

Factory-trained men do all repair work on tools at Black & Decker 40 Factory Service Branches.

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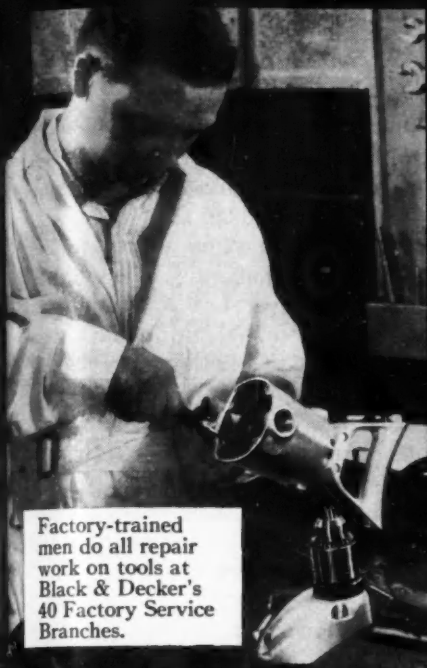
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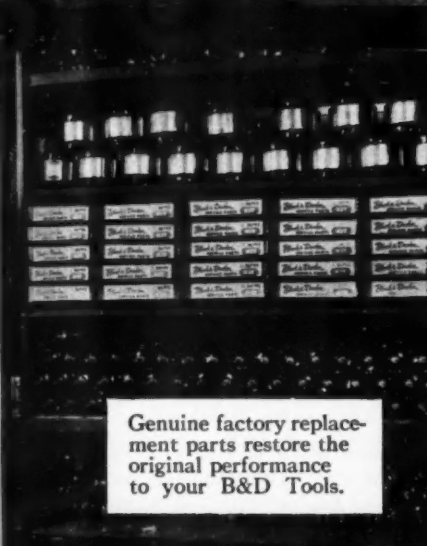
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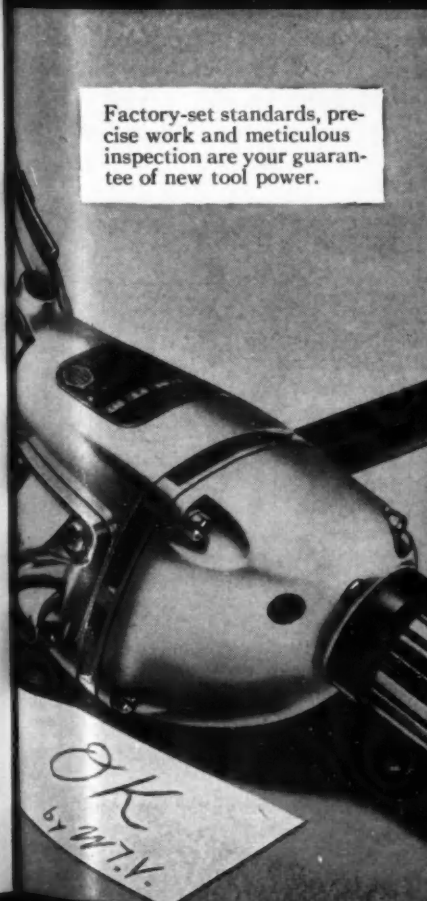
ly, 1955



Factory-trained men do all repair work on tools at Black & Decker's 40 Factory Service Branches.



Genuine factory replacement parts restore the original performance to your B&D Tools.



Factory-set standards, precise work and meticulous inspection are your guarantee of new tool power.



Completely equipped, fully staffed, Black & Decker's 40 Factory Service Branches give fast reconditioning to all Black & Decker Tools.

We put a factory of ours "RIGHT NEXT DOOR" to service your Black & Decker Tools

Because we feel a responsibility for every Black & Decker Tool many years after the sale is made, Black & Decker has maintained a policy of providing factory service "right next door" to you—the user of Black & Decker Tools. We realize how important *speed* is when your tools require servicing and have geared our service facilities to give you fast satisfaction.

We appreciate also the vital importance of *quality* in service. For that reason, every Black & Decker Factory

Service Branch is factory-owned and operated, staffed by factory-trained technicians, supplied with factory-made replacement parts, inspected by factory-set standards.

Today, there are 40 Black & Decker Factory Service Branches, located "right next door" to as many of the users of Black & Decker Tools as possible. For the one nearest you, contact your Black & Decker distributor, or write: THE BLACK & DECKER MFG. CO., Dept. 3907, Towson 4, Maryland.



For nearest distributor, see "Tools-Electric"

LEADING DISTRIBUTORS EVERYWHERE SELL



Black & Decker®
PORTABLE ELECTRIC TOOLS

Safety Program Delivers...

Continued from Page 124

to any particular action or deeds but may be given for outstanding service to the company, to fellow employees, to the industry as a whole or to the public. The Review Board will consider recommendations for the award made by any person or group of persons inside or outside the company.

As can be seen we try to "personalize" our safety work because we find it pays off in reduced accident rates. We present prizes other than arm crests or Awards of Merit to drivers or employees earning them. Apart from the buttons awarded for safe driving for various periods as devised by the Markel services we are currently presenting to drivers with one year of no chargeable accidents a set of very nice book-ends ornamented with a safety crest in heavy bronze.

This is a nice thing for the home and is really appreciated by drivers.

Last year we presented the same type of thing except this was a wall plaque, again something for the home which naturally pleases not only the driver but his wife and family too. We think that the family may do a little safety propagandizing too, to the husband-father-driver. The year before for one year of no chargeable accidents we presented a mahogany cigarette box bearing the same heavy bronze ornamentation. Every year we try to dream up a new trophy.

Driver Training

In our general safety work we take ordinary precautions to prove the new driver before giving him highway work. They start on city trucks where we can keep an eye on them, after they take a driver's test with either the foreman or branch manager. On this test the driver pursues his own course but the foreman makes a 3-page confidential report on his driving which covers practically everything. However, the instructor checks on bad driving the minute it occurs. We instruct as we go along.

Many truck drivers are not really happy until they tool an outfit over the road at night on a regular run. So we have set up a little system which at one and the same time permits the ambitious driver to realize his ambition, other things being equal, and at the same time is benefiting us.

(TURN TO PAGE 128, PLEASE)



UNDER AND OVER INFLATION WRECK ONE TIRE OUT OF EVERY 6

Improper inflation of tires can rob you — because it shortens tire life, wastes useful mileage, raises fleet cost-per-mile unnecessarily. Unnecessarily — because ECO tireflators give you constant, accurate delivery of desired pressures to insure all-around proper tire inflation at any pressure from 5 to 110 pounds. Economically, too, because in most cases, first cost of an ECO tireflator is its last cost. Ask your John Wood Representative for details about ECO remote tireflators and ECO islanders for tire-saving control of inflation pressures.



MODEL 97 ECO tireflator for mounting on wall, pillar or post. Fits anywhere to save your time and money.



JOHN WOOD COMPANY

BENNETT PUMP DIVISION Muskegon, Michigan

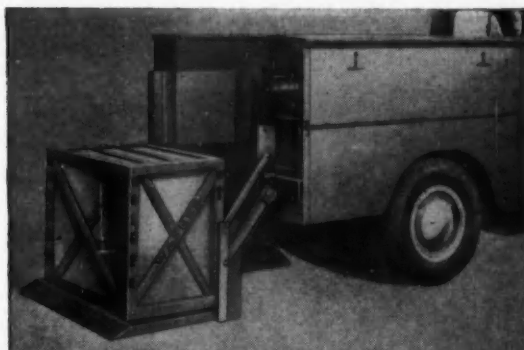


"When you finish making that coffee, may I have my oil filter back?"

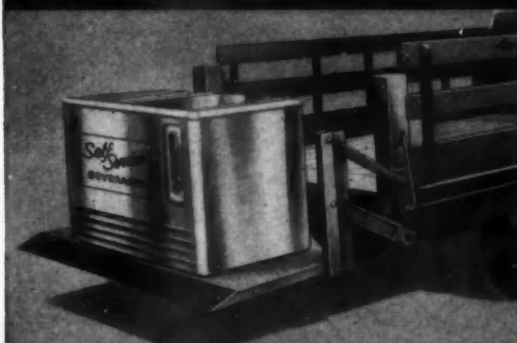
COMMERCIAL CAR JOURNAL, July, 1955

5 NEW GALION LOAD-EVATORS

Capacities—
600 to 3,000 pounds



MODEL G 60E Capacity 600 lbs. Truck battery operated. Mounts on 1/2 to 1 ton trucks with pickup, express or service bodies.



MODEL G 11P Capacity 1,100 lbs. Truck battery or power take-off operated. Mounts on 1/2 to 1 ton trucks with pickup, platform or stake bodies.



MODEL G 3000 Capacity 3,000 lbs. Power take-off operated. Mounts on any 1 1/2 ton or larger truck or trailer.

Galion LOAD-evators cut pickup and delivery time in half . . . protect merchandise against damage . . . reduce delivery man hours and guard against costly injuries!

Available in 5 models, with capacities from 600 to 3,000 lbs., LOAD-evators are designed for installation on any truck. And, LOAD-evators are delivered as complete factory-assembled and tested units, ready for quick, easy installation in any shop.

LOAD-evators raise or lower at the touch of a lever . . . have built-in safety features including a special latch which prevents accidental lowering of endgate. Models G 2000 and G 3000 open and close hydraulically—other models are spring-counterbalanced for easy manual opening and closing.

See your Galion Allsteel distributor today. He'll show you how LOAD-evators speed up deliveries—cut costs!

AA-1416



THE GALION ALLSTEEL BODY COMPANY
GALION, OHIO

DIVISION OF CENTRAL OHIO STEEL PRODUCTS COMPANY

Safety Program Delivers...

Continued from Page 126

We have graded our drivers into four classifications, A, B, C and D. Class A means the driver is qualified to drive a straight truck and Tractor-trailer urban and Inter-urban. Class B: to drive a straight truck and tractor-trailer urban. Class C: straight truck urban and

interurban. Class D: straight truck urban.

Operator's Certificate

All of our drivers are thus classified and a record of their classification noted on a form which we call the "APPLICATION FOR OPERATOR'S CERTIFICATE." After being road tested all drivers fall into one of these classifications and he is given a card to always carry with him, the OPERATOR'S CER-

TIFICATE card, which he displays at any given time to show what classification he is in. There is a different colored card for each classification.

This card is not only appreciated by the drivers but is a boon to a branch manager who has a load to go somewhere but whose regular men may be away for one reason or another. All the branch manager has to do is ask to see the cards of the drivers he does have on hand to be able to tell whether they are qualified to do the job at hand.

Of course, some drivers fall into a classification but do not fully qualify for the work. For instance, a driver may be qualified to take a tractor-trailer out over the highway to a nearby city during the daytime but is not qualified to do the same work at night.

Such exceptions are noted down both on the driver's Operator's Certificate card and on his Operator's Certificate form which we keep on file under the driver's name in head office.

When drivers in lower classifications feel they are ready to move up a class they make application for their Operator's Certificate for this class. If they pass the ensuing road test it is given to them. But in any event, we have tested and proved every one of our drivers to be competent to handle one of the four classifications of work. And he carries a card to prove it.

Report on Driver

We use another Report on Driver form which we consider most important. This form concerns both city and highway drivers and is concerned with that segment of their duties having nothing to do with driving. For instance, handling bills and COD's, courtesy to the customer, proper loading of his vehicle, orderly arrangement of his bills, properly unloading and neatly piling at the customer's place of business, whether he makes an attempt to secure additional freight, whether he handles shortages and damage properly and a dozen other things all concerned with the proper handling of his cargo from our warehouse to final delivery to the customer's complete satisfaction, is he neat appearing?

(TURN TO PAGE 132, PLEASE)

SIGN OF Dependable BRAKE SERVICE

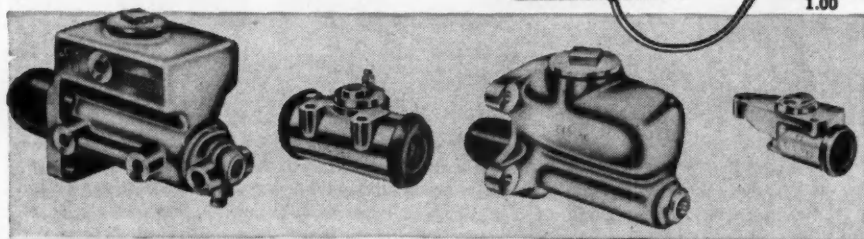
The new EIS electrical indoor Brake Service Sign is a real EISstopper! It's moulded of durable plastic, completely wired for immediate, "silent" selling. Whether you hang it or stand it on its easel, this EIS Sign identifies you as a dependable Brake Specialist... it brings 'em in for brake work.

To get this EIS attention-getter, simply attach a dollar bill to this ad and mail to your EIS Distributor or direct to the factory.

MR. JOBBER! Tell your customers about these EIS Signs! They help you—they help them. Make sure they're supplied.

ALSO AVAILABLE

- No. 63—Metal enameled sign (22" x 22") single face.
- For exterior wall use.....75
- No. 64—Metal enameled sign (22" x 22") with bracket.
- For exterior use.....2.00
- No. 61—Paper indoor sign (9" x 9") no charge
- No. 62—Paper indoor sign (22" x 22") no charge

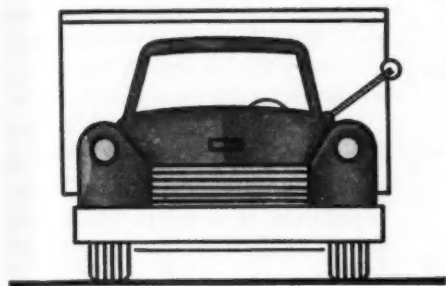


REPLACE...REPAIR...REFILL WITH EIS

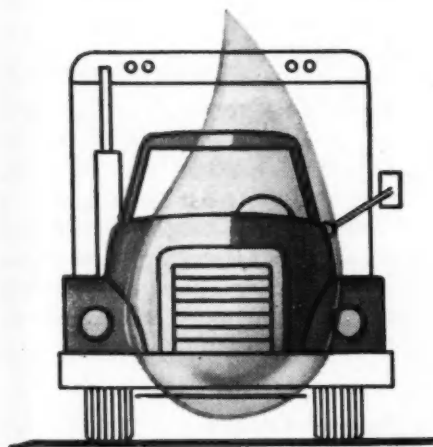


Write for Catalog: EIS AUTOMOTIVE CORP., Middletown, Conn.

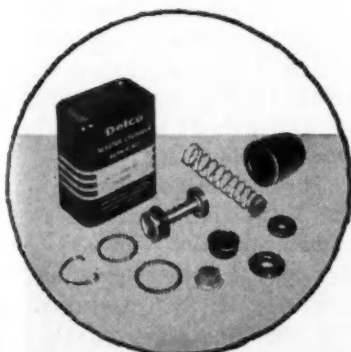
Better



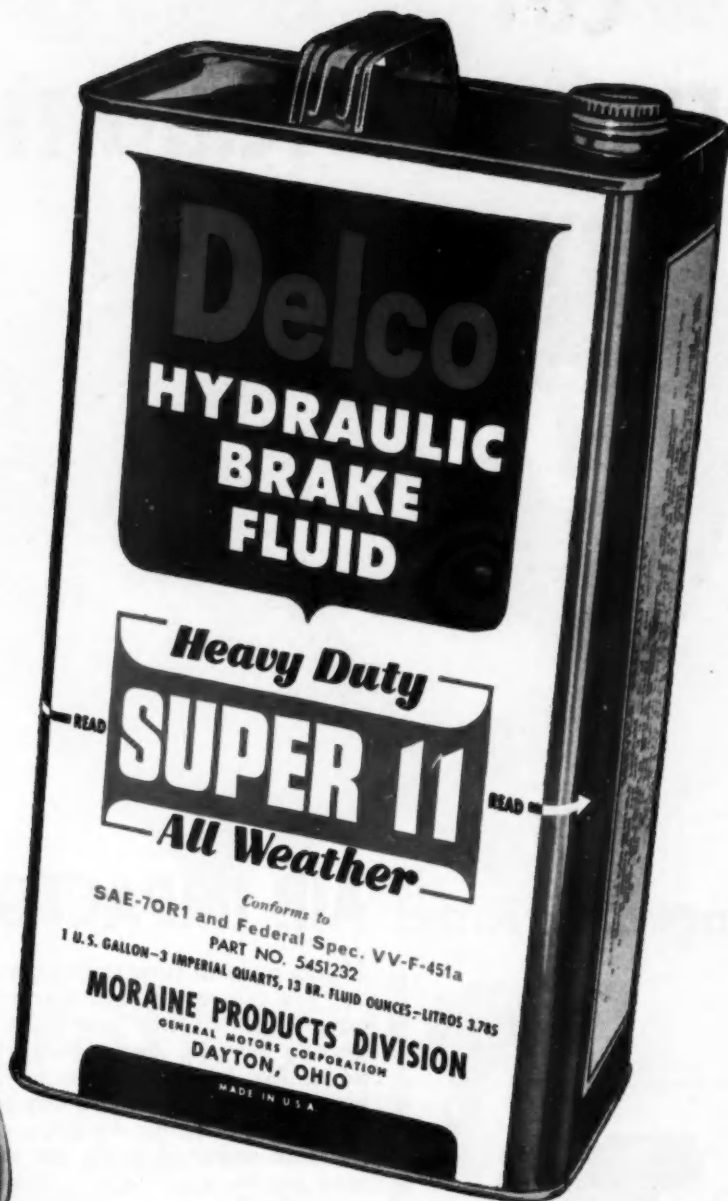
Brake Fluid



Conditions



MASTER CYLINDER REPAIR KIT
Contains every part necessary to put a master cylinder back in normal operating condition.



Cars, trucks and buses stop better—stop faster—in heavy traffic or light, with Delco Super 11 heavy-duty brake fluid in the brake systems. Delco Super 11 exceeds U. S. Government specification VV-F-451a. It also exceeds SAE specification 70R1, which establishes performance standards for heavy-duty brake fluid, including operating temperature ranges, lubrication, stability, corrosive effect on metals and rubber. There's a big pre-sold market for Delco Super 11, too—it's factory-installed in many vehicles, including all General Motors cars and trucks. You can order Delco Super 11 and Delco Super 9—the moderate-duty brake fluid that exceeds SAE specification 70R2—from your United Motors distributor. Both are available in any convenient quantity, from 8-ounce cans to 54-gallon drums.

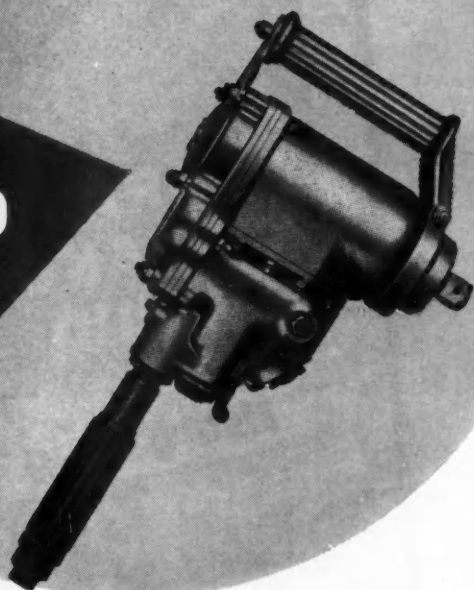


moraine products

DIVISION OF GENERAL MOTORS, DAYTON, OHIO

CUT FLEET SERVICING TIME

BY
20%



with

Ingersoll-Rand AIR IMPACTTOOLS

If you are not now using power tools . . . you can easily cut up to 1/5 from your truck or bus servicing time by putting rugged, dependable Ingersoll-Rand Air Impacttools in the hands of your mechanics. Time study tests show these tools save an average of 20% of the time required to do the more common service and repair jobs by hand methods. You save on labor costs, and also benefit from keeping your service shop "on schedule" and your fleet in top shape.

If you now use power tools . . . it will pay you to check the money-saving advantages of these up-to-date I-R Air Impacttools. Chances are they're lighter weight, easier-to-use, and more powerful than those you now use.

In either case, call your Ingersoll-Rand jobber NOW. He'll arrange a demonstration of the famous I-R Air Impacttool line right in your own shop.

Ingersoll-Rand
11 Broadway, New York 4, N.Y.



AIR COMPRESSORS



IMPACTTOOLS
ELECTRIC



IMPACTTERS



THE TOOLS



AIR STARTING
MOTORS

Originators of Impacttools

AIR & ELECTRIC

Safety Program Delivers...

Continued from Page 128

It is for this reason that, in our safety work, while we demand good driving, we have at times overlooked chargeable accidents because the driver was more than capable of creating a firm friendship between himself, as representative of Overland Express and the customer, who keeps us in business.

It is for this reason that we consider that while a safety program must abide by certain rules and regulations as a basis these rules cannot always be interpreted too strictly.

A case in point is the driver who started in with us and had six chargeable accidents in the first five years. But he was such a competent man, such a favorite with customers and so good in the other segments of his work that we kept him on.

In the past five years this driver has had no accidents at all and is today one of our best. He has conquered his bad driving habits and he always has been, and is, a whizz in good customer relations. So in our safety work we sometimes temper rules with a little leniency and more often than not found it paid off.

Rule of Reason

We feel that a man's good points must be balanced against his bad ones and judgment made as to which outweighs the other when all things connected with the actual movement and delivery of freight is considered. There are many other things, we feel, to safety work, to profitable operation, than just driving. Of course, we do not retain the hopelessly incapable driver although at times we find him work on the dock.

Through a shop canteen we operate a "Keep the Pot Hot" safety campaign. Hot coffee is on the house once a month as long as no mechanic has a lost time accident. We started this program a year ago and have not suffered a lost time accident since.

END

Please Resume Reading Page 84

COMMERCIAL CAR JOURNAL, July, 1955

Fleet Training

HERE is 1954 training addresses to w mation about t MERCIAL CAR 1954, issue, pag

Fleet Supervi

Aug. 22-26— ville (Kent Sept. 12-16 - University Sept. 19-23 (Indiana). Oct. 31-Nov. nesota. Nov. 14-18— gan. Nov. 28-Dec. ron (Ohio

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"I just can't deseril

COMMERCIAL C

Fleet Training Courses

HERE is 1955's calendar of fleet training courses. For complete addresses to write to for full information about the courses, see COMMERCIAL CAR JOURNAL'S November, 1954, issue, page 237.

Fleet Supervisor Courses

- Aug. 22-26—University of Louisville (Kentucky).
- Sept. 12-16 — Pennsylvania State University.
- Sept. 19-23 — Purdue University (Indiana).
- Oct. 31-Nov. 4—University of Minnesota.
- Nov. 14-18—University of Michigan.
- Nov. 28-Dec. 2—University of Akron (Ohio).

Driver Training

- North Carolina State College (one month long courses starting Aug. 1, Sept. 3, Oct. 3, Oct. 31, Nov. 28).

Terminal Management

- Oct. 11-13 — Pennsylvania State University.
- Dec. 7-9—University of Tennessee.

Top Management Conferences

- Sept. 29-30 — Pennsylvania State University.

Fleet Maintenance Courses

- Sept. 19-23 — Rutgers University (New Jersey).
- Sept. 26-30 — University of Oklahoma.
- Oct. 3-7 — University of Alabama.
- Oct. 10-14—Tulane University.
- Nov. 1-3—Oregon State College.
- Nov. 7-9—Montana Motor Transport Assn. (Billings).



"I just can't seem to find words to describe this last run!"

COMMERCIAL CAR JOURNAL, July, 1955

grab these handles...



for your toughest jobs

Want extra power? Here's the most powerful electric Impacttool on the market. Rated capacity up to 1 1/4" bolts.

Want handling ease? Here's a short, compact tool that's handy for close-quarter work such as spring U-bolt jobs.

Want durability? Here's the largest of the famous I-R line of electric Impacttools—recognized for superior construction and most dependable performance.

Want a demonstration? Here's how to get one right in your own shop. Call your Ingersoll-Rand jobber now.

18-192

Ingersoll-Rand

11 Broadway, New York 4, N.Y.



Originators of Impacttools

AIR & ELECTRIC

High Speed Service . . . High Class PM

Continued from Page 75

you consider that these figures include all factors engendering expenses to equipment and shop, we feel that we are well within a logical figure. In spite of that, however, we feel that costs can still be cut, after all present equipment is put into first class condition.

The maintenance department at Quaker City consists of 29 men. Eight of them are first class mechanics and specialists in their own right. One is a brake specialist. One is a tune-up man; one is an engine machinist, and another is a top electrician who makes all re-

pairs to electrical units and completes the final adjustments. In this way we are assured of proper supervision of the critical jobs that must be right. We thoroughly subscribe to specialization in the interest of efficiency and good workmanship. We do not feel that we have time to train each man to perform a variety of jobs. And as long as we have a top grade man in charge of specific jobs we feel we are getting the most from the engines and assemblies.

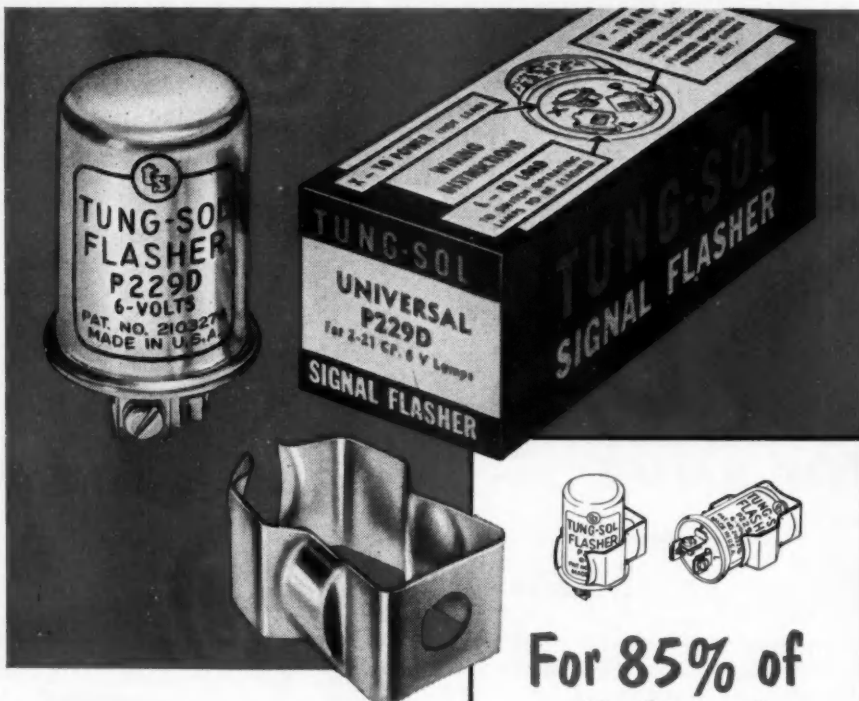
Shop records prove that we are getting 330,000 miles on diesel engines before complete overhaul. While we are not involved in long traffic delays and unnecessary idling (the bane of the diesel engine) we feel that this is still a lot of mileage. We are getting an average of 180,000 miles on brake drums. While many maintenance men might envy this figure, we recognize that our brake problems are not as critical because of the nature of the operation.

Brake Work

Still, some of this, we know, is a result of good shop work. Brake drums are never ground, but are discarded when we reach this mileage. In the interest of safety we feel that salvage is not practical. We get up to 100,000 miles on linings for the same reason. Good maintenance procedures definitely figure into this because we are getting a very high ratio in wear between front and rear, proving excellent balance. Here is a case which is not at all exceptional. Rears on one bus were replaced at 130,000 miles. Fronts were renewed at 146,000 miles. We are presently making studies to determine whether it will pay to replace all linings arbitrarily at a fixed mileage. If we come to this, it will be at about 120,000 miles right across the board.

Brake work has received a great deal of attention in our shop. And one of the tools responsible for our standard stop of 19 feet at 20 mph is a boring bar designed to ream the brake spider bushings accurately. It was made up originally here and is now on the market through Smith Devices, Inc., of Philadelphia. While relatively sim-

(TURN TO PAGE 136, PLEASE)



TUNG-SOL® UNIVERSAL SIGNAL FLASHERS

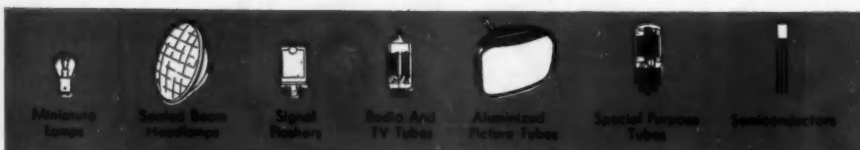
Just about nine out of every ten service jobs that necessitate replacement of the signal flasher can be handled with this one Tung-Sol Universal Flasher. The special mounting bracket takes the place of ten-screw-terminal and attached-bracket types of mounts—seven in passenger cars and trucks with 6 volt circuits and three in 12 volt trucks and busses. In addition, both the 6 and the 12 volt Universal Flasher can be stripped down to replace the respective plug-in types. Universal

For 85% of
all Signal
Flasher
Replacements

Flashers P229D (6 volt) and P241D (12 volt) are supplied with mounting brackets and special wiring connector screws and nuts. Order from your regular supplier.

TUNG-SOL ELECTRIC INC.
Newark 4, N. J.

Sales Offices: Atlanta, Chicago, Culver City (Los Angeles), Dallas, Denver, Detroit, Montreal (Canada), Newark, Philadelphia, Seattle.



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Engine Parts •
Springtites • Sp

COMMERCIAL CA

EATON

Zero-Lash



HYDRAULIC VALVE LIFTERS

Provide Important Advantages

- ★ Silent valve train operation
- ★ Longer life for valves and seats
- ★ Elimination of lash worries for the life of the engine
- ★ Improved idling
- ★ Permit cam design for optimum engine operating efficiency at all speeds and all operating temperatures



Eaton Hydraulic Valve Lifters are available in all designs and face materials to meet the specific requirements of each application. Let our engineers work with yours.

EATON

— SAGINAW DIVISION —
MANUFACTURING COMPANY
 9771 FRENCH ROAD • DETROIT 13, MICHIGAN
 General Offices: CLEVELAND, OHIO



PRODUCTS: Sodium Cooled, Poppet, and Free Valves • Tappets • Hydraulic Valve Lifters • Valve Seat Inserts • Jet Engine Parts • Rotor Pumps • Motor Truck Axles • Permanent Mold Gray Iron Castings • Heater-Defroster Units • Snap Rings • Springtites • Spring Washers • Cold Drawn Steel • Stampings • Leaf and Coil Springs • Dynamatic Drives, Brakes, Dynamometers

... High Class PM

Continued from Page 134

ple in construction, it saves a lot of time and will guarantee accurate results in boring the anchor pin holes and the brake cam shaft holes.

The boring bar is clamped to the axle with the spider in place, and the cutter is aligned with the center of the hole to be bored. After the cutting bar is lined up the feed

screw and clamp nut are secured and the cut is made through the crank. There are two distinct advantages in using this bar. The spider need not be removed; and the hole is cut parallel with the axle. As a result the spider can be restored to perfect accuracy, permitting precision shoe-to-lining contact. In a few minutes you can do what originally required several hours to restore a brake spider. We have an adapter to go with this

machine to bore front spindles. Here again perfect alignment can be had with a minimum of set-up time.

Appearance Maintenance

We give a lot of attention to appearance maintenance at Quaker City. Equipment is washed daily in the interest of good public relations. But hand washing was costly from a labor standpoint. While good washers were available, we didn't think we could afford to lay out several thousand dollars in spite of the eventual savings. So we built one.

Outstanding feature of this design is the fact that it will fold up against the wall when not in use, thus permitting utilization of floor space which we sorely need in our cramped quarters. With this home-made, unimposing device we can wash all 35 buses in an 8-hour shift. Originally it took two men 8 hours to wash 10 coaches. Cost of the unit was something like \$700—including everything.

Main components are a 250-gal fuel tank, a 350 gal per min. centrifugal pump, a 3-hp motor, a few lengths of 2½-in. piping, 27 jets, various valves and the contact switches for turning on and off.

We needed the tank to provide an adequate supply for this high capacity pump. A regular toilet valve installed in it provides for automatic filling from the city water line. The tank and pump are mounted on stilts as shown and the pipe lengths conform to coach measurements. A regular mop head, available from a washer supply company,

(TURN TO PAGE 140, PLEASE)

**Cut fleet
maintenance
and repair
time in
half with...**



SERIES "1800"
HYPPRESSURE

Jenny

NEW MODEL "1809"
Hyppressure JENNY.

**STEAM CLEANER
and STEAM THORO-PURGE**

Cost-conscious Fleet Operators welcome the powerful new Series "1800" Hyppressure Jenny Steam Cleaners as the keystone of their fleet maintenance program. Features, such as: output of 180 gallons of boiling hot cleaning solution per hour; capacity for two cleaning guns; finger-tip choice of flushing and rinsing volume up to 480 gallons per hour; automatic electric ignition; and instant steaming, make "1800" Series Jennys the chief cost-cutting tool for your service shop.

With Steam Thoro-Purge, an optional accessory, Jenny will even reverse-flush complete cooling systems (radiator, motor block and heater) and guarantee a better job than you can get by any other method! Let Hyppressure Jenny with Steam Thoro-Purge help increase your profits, by cutting fleet maintenance time in half.

For full particulars, **MAIL THE COUPON TODAY**

Without obligation on my part, send full facts about ☐ new Series "1800" Hyppressure Jenny; ☐ Steam Thoro-Purge.

NAME _____ TITLE _____
COMPANY _____
ADDRESS _____
CITY _____ STATE _____

HYPRESSURE JENNY DIVISION

HOMESTEAD VALVE MANUFACTURING COMPANY

Serving Since 1892

P. O. Box 90

Coraopolis, Pa.



"Occupation, Mechanic. Go on Mr. Fluge!"

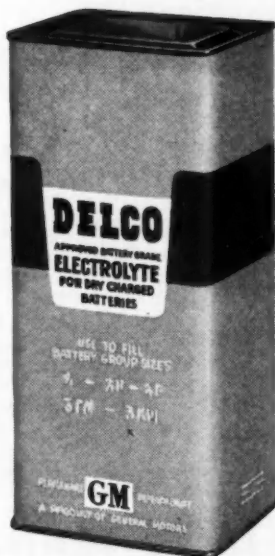
HAVE EVERYTHING IT TAKES "LOW-COST OPERATION" ★ ★ ★

NEW! CONVENIENT! DELCO ELECTROLYTE PACKAGE

If you are among the many fleet owners who prefer a dry charge battery, here's news that will interest you. Delco has perfected a new container that makes handling and storage of electrolyte a cinch!

It's a disposable container, yet it was designed to meet all shipping requirements. Since Delco's dry charge battery requires no initial charge you simply add electrolyte from this convenient container and your vehicles are ready to go. No waiting around. No time lost.

★Listen to Lowell Thomas on CBS Radio Network—
See your newspaper for time and station.



ZIP



ZIP off the top of the sturdy fiberboard container, with the built-in pull string.

CLIP



CLIP the corner of the acidproof polyethylene bag that's attached permanently to the container.

POUR



POUR easily from this disposable container, which comes in two sizes to meet every battery need.

A General Motors Product

A UNITED MOTORS LINE



... High Class PM

Continued from Page 136

is used for the overhead cleaner. The universal valve, located at the wall, permits swinging of the spraying unit through a 180 deg arc.

The spray is mounted on casters so that one man can fold it around when the job is done. We used a spray dispenser with this set-up for

a while, but finally decided against using soap or detergents in view of the costs. Switches are simple contact types with hose actuators set so that the incoming bus turns on the water; later the rear end of the bus releases the second contact switch to turn off the pressure.

Unit Replacement Program

Oil mileage is the subject of continuous study here. We use the best grade of heavy-duty oil we can get and originally changed at 6000

miles. However, analyses provided by the oil supplier showed us that we were getting very little dilution and water at this figure. So we went to 8000 miles and eventually to 10,000. Laboratory tests still show that we are well within a safe range. However, we are watching results very carefully, knowing that the final test will be the engine wear rate. Consumption rates, in spite of high speed operation, are not excessive. Our diesels are giving us 130 miles per quart on an average. This, of course, includes oil used at the change as well as make-up oil.

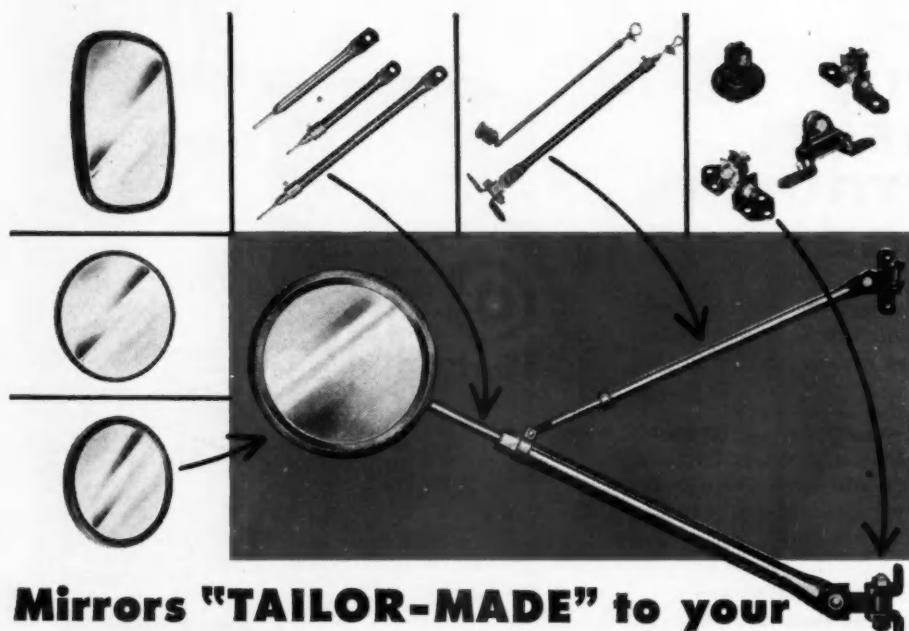
Engine accessories are changed at 50,000 miles, a figure which may appear to be low to some operators. Injectors are checked at 5000 miles and are arbitrarily replaced at 100,000 miles. Wheel bearings are repacked at 20,000 miles, but here again, we are gradually extending the periods and hope to get 50,000 miles between packing with new, high grade types of grease. To those who call this low replacement figures, I have only one word to say. We can't afford a road failure. If a bus breaks down on the road, it means a transfer of passengers to a competitive company or to another form of transportation. That means bad public relations and eventually reduced fares. So the extra 10,000 miles of operation for injectors, generators, starters, etc. means little when balanced against these odds.

Under our present program we have had only 40 road failures in the last 2½ million miles of operation. That's 2½ times around the world per road delay. But that is too much. We'll cut that down eventually, because road failures cannot be tolerated in this type service.

Tachometers Protect Drivers

Good public relations demands attention to drivers and their techniques. We don't want delays from pull downs and we spend considerable time in training drivers to this thinking. We've got to maintain speed at the top limits, and there is always a temptation to ride the high side. Every vehicle is equipped with a tachometer. Drivers as well as the unions consider this a pro-

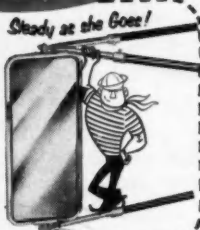
(TURN TO PAGE 143, PLEASE)



Mirrors "TAILOR-MADE" to your exact requirements!

**CUSTOM
PURCHASE
PLAN***

See Grote's New
Clear-Vue, Too!
Big Rear View...
Steady Image...
Easy
Installation!



Look into the complete Grote line of Truck Mirrors and Grote's new CPP* program. Contact your Jobber today, or write for catalog pages and prices!

HERE'S HOW IT WORKS!

From Grote's complete line of mirror heads, arms, braces and brackets, you need order only those you want! Combine these parts to produce the "tailor-made" mirror assembly that fits your fleet requirements best. No replacement problems, either! You can replace any separate part, stock only parts needed. Avoid costly delays, mirror misfits and criples, part-snatching from other complete mirror assemblies. Take advantage of Grote's new "Custom Purchase Plan"! You'll save time, cut costs, and be assured of mirror assemblies that fit your needs exactly.



Lamps • Directional Signals • Reflectors • Flores • Mirrors

THE GROTE MANUFACTURING CO., INC., Bellevue, Ky. • Opposite Cincinnati

... High Class PM

Continued from Page 140

tection. To us it is assurance that they are operating efficiently.

We calibrate the tachometers every 35,000 miles to be sure that they are accurate. This cultivates the respect of state authorities. They know that we are cooperating with them. As a result, if and when a driver is pulled down, they will take his tachometer reading over their own clocking of speed knowing that our recorders are accurate.

Calibration is accomplished with a tester designed in our shop. It consists of a master tachometer mounted on a board along side the one removed from the coach. A heater motor is connected through a speedometer head and adapter to both tachs. Flexible speedometer cables provide the drive. A rheostat heater switch is connected through a resistance of such capacity as to drive the unit at a speed paralleling road speeds. A 12-volt battery supplies power. In this way we have an inexpensive way of double checking these units.

Tach charts are kept on a board with each driver's name so that he can check them at any time. A display of this type is another method of controlling unsafe driving practices, for no driver wants others to see his mistakes displayed so prominently in the transportation office.

Fuel Expenses

One might ask, "How do your fuel expenses compare with a more typical transit fleet?" We are getting 6.62 miles per gallon with the Cummins diesel; 6.31 miles per gallon with the GMC diesel. This is due to: (1) the fact that we have only 18 stop lights along this 94-mile route; (2) the fact that carburetors and diesel fuel systems are carefully and promptly maintained; (3) the fact that engine temperatures are kept to the ultimate in operating efficiency; (4) and finally because our drivers are well trained in maintaining high but constant road speeds.

END

Please Resume Reading Page 76

it's what's inside that counts



DON'T BE MISLED BY PRICE ALONE!

There is NO substitute for DIESELPAK'S Patented Filtering Process for Heavy Duty Compounded oils AT ANY PRICE. The DIESELPAK cleans more oil faster—keeps it CLEAN longer—and gives more service and better engineered protection than any other filtering element. It PAYS to get the BEST!

STANDARD OF THE INDUSTRY SINCE 1936

✓ PROTECTS ENGINE

The DIESELPAK is designed to remove not only ABRASIVES but also CONTAMINANTS such as moisture, carbon, acid, etc., from oil, and is engineered to keep the filtering media and the removed contaminants from migrating back into engine.

✓ EXTENDS PERIODS BETWEEN DRAINS

The DIESELPAK collects and holds even the most finely dispersed contaminants without affecting or removing compound additives from the oil. A glance at the dip stick will show that the oil is CLEANER—symbol of better lubrication and longer oil life enjoyed only by Luber-finer users.

✓ TAKES LESS OIL

The DIESELPAK because of its engineered construction requires 2 to 4 quarts less oil than spongy substitute filter elements being offered for use in the Luber-finer housing. This is an additional saving enjoyed when using the DIESELPAK.

LUBER-FINER PACKS AVAILABLE:

1. REFINING PACK—Introduced to the public in 1935 for use with straight mineral oils, fuel oils, hydraulic oils, and inhibited industrial oils.

2. DIESELPAK—First made available in 1941, the DIESELPAK was primarily designed for use with H. D. detergent compounded oils and has also achieved outstanding results when used with fuel oils and straight mineral oils.

WRITE FOR COMPLETE INFORMATION TO DEPT. 191

LUBER-FINER, INC., 2514 S. Grand Ave., Los Angeles 7

Two-Way Radio Can Pay in Small Fleets

Continued from Page 73

megacycles. Being above 25 megacycles this does *not* require a first or second class licensee with technical knowledge to be in charge of the station. However, the restricted radiotelephone license holder is not permitted to make adjustments in the equipment, except in the pres-

ence of a first or second class licensee (who is generally the equipment serviceman). Also the equipment must be designed so as not to interfere with other frequencies during adjustments.

The original cost to Ormond's Laundry of the complete installa-

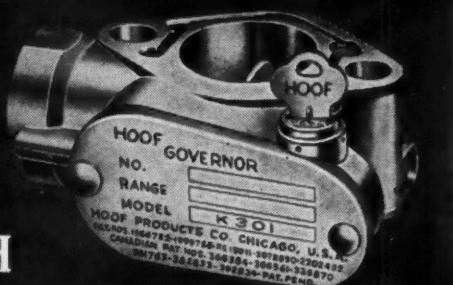
tion was about \$6,000. This included \$525 apiece for the phone, speaker and transmitter-receiver installed in each of five trucks, another \$1,500 for the equipment set up in the plant, and \$250 for the antenna mast. The balance of the cost covered licenses, engineering costs, legal fees, etc.

The Ormond switchboard operator also tends the plant transmitter-receiver. It is her duty to handle calls into the plant and to monitor the traffic over the circuit.

**...now that equipment
must be made to
last longer...**

install HOOF GOVERNORS

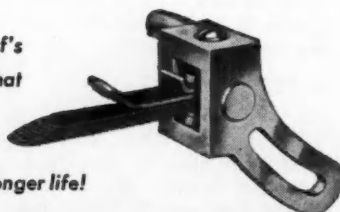
**on your fleet,
and watch
your
vehicle life
S-T-R-E-T-C-H**



Hoof Governors *make sure* that your vehicles are driven at the speed you want—they prevent excessive engine racing in intermediate gears, reduce operation costs and substantially increase the interval between overhauls! Now, more than ever, the economies of Hoof operation warrant your full attention. Write us for facts!



No other Governor has Hoof's patented Cantilever Spring that means more accurate speed control, simplified construction and longer life!



HOOF PRODUCTS CO. 6543 So. Laramie Ave., Chicago 38, Ill.

Better Service

Mr. Howard stated that if Ormond Laundry had no clients at all for their service (or "subscribers" as they are called) the radiotelephones would more than pay for themselves to the laundry itself. This is through quicker contacts with the route salesmen, elimination of callbacks or backtracking, improvement in speed and quality of service to customers.

Actually, the station must serve all who ask for service, up to its capacity of 100 units. Its first customer was the Taylor Oil Co., which installed units on its six tankers that range for 20 miles around Fayetteville. This represents the limits of dependable service on the station's present wattage.

The oil company is tied into the laundry transmitter by a private telephone line. Its calls are handled independently, without involving the Ormond operator. All calls are on the same frequency, of course, and all parties hear all calls. The laundry drivers identify themselves as "Route Three" or "Route Five," while the oil truckers are coded "Taylor Two" or "Taylor Six."

Others Eligible

It may be some time before the Ormond station's capacity is taxed. Then a waiting list is established according to priorities.

Category 1 is the public safety and health group.

Category 2 covers public service, including contact carriers, common carriers, and public utilities.

Category 3 is called quasi-public service and takes in emergency repair outfits, newspapers, etc.

Category 4 is for "persons who," (TURN TO PAGE 148, PLEASE)

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Packard "4
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COMMERCIAL CA

Packard Low Tension Cable with New "404" Insulation!

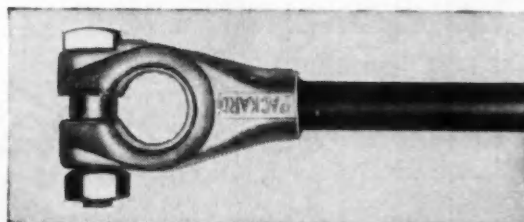
BUT MIGHTY TOUGH!

Slimmer... because it needs no braid. That means it is easier to install in tight places. **Tougher**... its abrasion resistance is equal to lacquered braid.

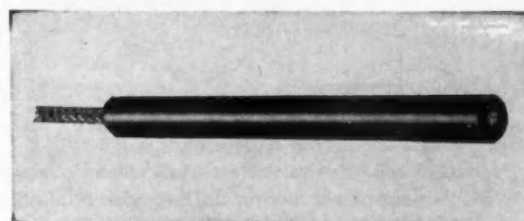
Packard "404" insulation is different from ordinary commercial plastics. This compound was developed especially to meet all automotive requirements without the use of braid.

The "404" insulation is oil-proof, flame-proof, moisture-proof, acid-proof, and it does not age. Think what that means in safety and long life! It is original equipment on the majority of the new cars being made. Millions of feet are made daily for the production of cars, trucks, buses and tractors... and it is lower priced.

You will be adding accessory circuits to vehicles equipped with this cable. Get a stock of this Packard low-tension cable from your Packard jobber... also these other members of the "BIG 3" in the cable business, shown at the right.



PACKARD BATTERY CABLES—used on more new cars, trucks, buses, and tractors than any other make. Now Packard LEADALLOY battery cables are insulated with Packard's new "809" compound—positive protection against acid, grease, oil and heat. All Packard battery cables are built to deliver full starting power—all enjoy wide acceptance everywhere.



PACKARD TELEVISION-RADIO SUPPRESSOR IGNITION CABLE—recommended where ignition interferes with radio and television reception. Also used to suppress interference in two-way communications systems in automotive, marine, aircraft and other applications. Supplied in kits and factory-made sets.



Packard
REG. U.S. PAT. OFF.
TRADE MARK

Packard Electric Division, General Motors, Warren, Ohio

A GENERAL MOTORS PRODUCT  A UNITED MOTORS LINE

DISTRIBUTED BY WHOLESALERS EVERYWHERE

FOREMOST BUILDER OF AUTOMOTIVE WIRING

COMMERCIAL CAR JOURNAL, July, 1955

Two-Way Radio . . .

Continued from Page 144

because of physical handicaps, operate specially equipped vehicles and are unable to leave such vehicles without assistance."

Category 5 lumps together all industrial uses, taxis, livery, etc.

Category 6 provides phone service to the public while in transit on trains, boats, etc.

Category 7 is for "all others."

The above table is set forth in the "Regulations and Schedule of Charges" published by the Ormond Laundry as applying to its domestic public land mobile radio service.

Rates charged by Ormond's and subject to FCC approval are \$5 per month per unit for maintenance plus a flat fee of \$8 covering the first 40 calls, dispatched or received, plus 15¢ a call above 40 calls. If the subscriber furnishes the equipment, but Ormond installs it, the charge

is \$25 per unit. If Ormond furnishes the mobile equipment, the same installation charge is made, plus \$15 per month rental per unit.

Cost to subscribers figures out to around \$17.50 monthly per unit. If they subscribe on a seasonal basis (Ormond has not yet had this request), one method is to charge \$34 monthly for 3 months, plus \$20 for the next three months plus \$8 for the last six months.

The cost of a private line into the transmitter, such as Taylor Oil Co. uses, is borne by the subscriber.

Get Aboard These NIEHOFF

MONEY SAVERS



... says Danny Dollar

Every year more fleet owners and commercial repair shops are saving dollars with Niehoff Warranted Ignition Parts. A sensible numbering system saves time in locating the right part...precision fit saves installation time...and rugged performance adds thousands of extra operating miles. Check with your jobber on the money-saving features developed by Niehoff in 33 years of specialized experience. He has Niehoff Ignition and Brake parts for every popular make and model of popular car, truck, bus and tractor.

C. E. NIEHOFF & CO.

4925 W. LAWRENCE AVENUE • CHICAGO, ILLINOIS

WAREHOUSES: NEW YORK 19, N. Y., 250 W. 54th Street
PHILADELPHIA, PA., 1631 Fairmont Ave. • BOSTON 34, MASS., 254 Brighton Ave.
BRANCHES: LOS ANGELES 15, CALIF., 1330 W. Olympic Blvd.

Outside Service

Without a private line the subscriber dials one of Ormond Laundry's three regular phone numbers and the switchboard girl, when the subscriber identifies himself, connects him to the transmitter, whereon he "pages" his own mobile unit, and the switchboard operator disconnects when he's through. If it is a subscriber's truck or car that's calling its home base, the switchboard operator may take the message and phone it in. Otherwise she dials the proper number and when the subscriber's phone is answered, the girl announces a radiophone call from the subscriber's mobile unit and plugs in the transmitter so the driver and his boss can talk directly.

One hundred units sounds like heavy traffic through a single station. Actually the volume varies widely with various units and in cycles that differ with seasons, time of day, weather, and even economic conditions. A radiotelephone "call" is restricted to one minute, with each successive minute counted and charged for as another call. Thus if anyone wants to make a lengthy call it is cheaper to hail a person over the air and arrange to make a phone call in the usual way from a pay station or private phone.

Rightly managed, such a station should be a paying proposition as their popularity spreads over the country. The investment is protected because FCC will not license a second station in an area until it is conclusively proven there is need for one.

END

Please Resume Reading Page 74

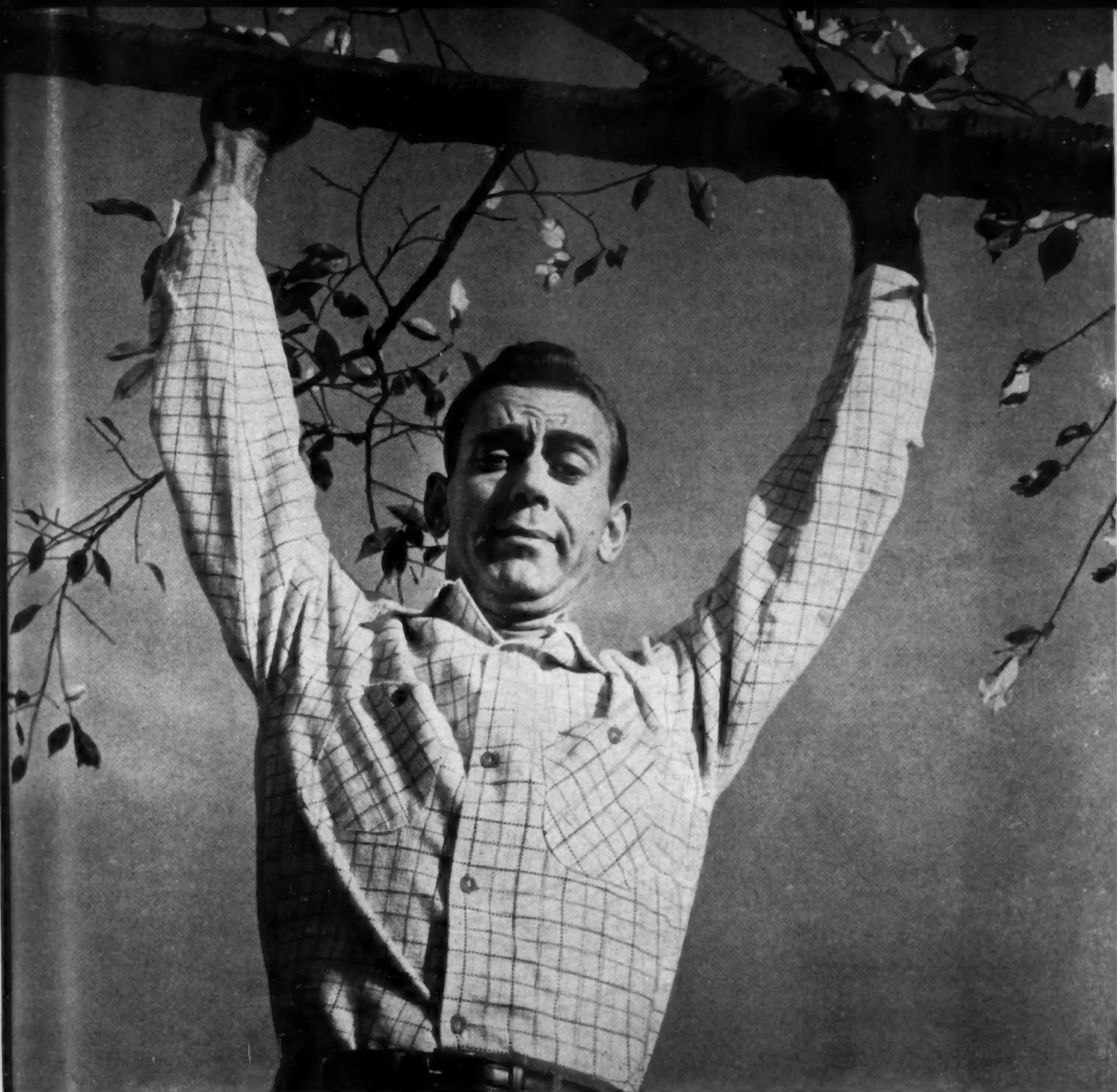
COMMERCIAL CAR JOURNAL, July, 1955

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Out on a limb about brake lining?

Brake lining claims coming at you hot and heavy? Got you confused? Out on a limb? There's no need to be. Here's one *sure* thing that makes sense in any man's language . . .

Today, Bendix-Eclipse* Brake Linings and heavy-duty frictional materials are used on more *new* vehicles than any other make! The choice by far of America's leading car and truck manufacturers. And since the *earliest days* of the automobile, the name "Bendix" has always been identified and associated with every major braking improvement and advancement.


What better assurance could you have that Bendix-Eclipse Brake Blocks and Linings are *best* for you. Order your stock now from your local Bendix-Eclipse jobber.

®TRADE MARK



On more
new vehicles
than any
other make

Bendix-Eclipse Brake Blocks and Linings

MARSHALL-ECLIPSE DIVISION OF  TROY, NEW YORK

Design Requirements of Aluminum Tanks

Continued from Page 67

We should point out two design factors which should be given consideration when using aluminum:

1. High localized stresses or stress concentrations should be avoided. All loads must be distributed uniformly on the tank shell, baffles, and heads. It is de-

sirable to use pads and heavy gage shell material at the front and rear support points.

2. Tank suspension systems and running gear should be given special consideration when converting from steel to aluminum. The weight of the aluminum tank with-

out gear is approximately half the weight of a steel tank. Obviously it is necessary to provide a more limber or sensitive suspension system for the aluminum tank when it is empty. Possible solutions to this problem include the use of airbag suspension systems, two-stage spring systems, or shock absorbers in conjunction with a conventional spring suspension.

Generally speaking, the design of an aluminum tank involves increasing material gages by approximately 40 per cent.

Tank Fabrication

The second item to be considered is tank fabrication. Here again, we have found that the procedures developed for steel transport construction can, with a few exceptions, be followed on aluminum construction.

However, welding equipment is different. Semi-automatic welding units such as Aircomatic, Sigma, and Pullweld processes, are doing an excellent job. Usually it will be found that this type of equipment produces welds at a faster rate than is possible on steel.

Second, forming of some of the tank components will be slightly different from steel. Forming of heads, baffles, and shells, is done in the conventional manner and on the same equipment as is used for steel. However, press-brake forming of the heavy gage support members will require substantially larger bend radii than steel to avoid cracking.

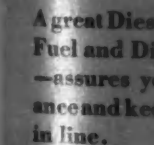
Third, the cutting of heavy gage components is usually accomplished by sawing with a portable jig saw or a saw rather than torch cutting. Any type of straight shearing job will, of course, be done on a power shear.

I think we will all agree that either steel or aluminum tanks which are built to today's minimum weight standards, cannot be expected to perform continuously for periods of ten years without some maintenance being required. All the evidence that we have to date indicates that the maintenance required on aluminum tanks will be no greater than on steel.

END

Please Resume Reading Page 68

COMMERCIAL CAR JOURNAL, July, 1955



BIG OPERATOR OPERATES!

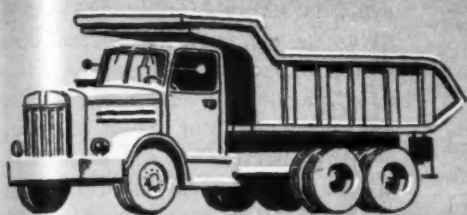
**SPECIFY
MICHIGAN HI THERM**

Made to the same original equipment specifications as the bearings we supply to leading car and truck manufacturers.

Big, middle-sized, and small-scale truck operators can really operate on Michigan Hi Therm Engine Bearings. More earning power with more road time. Easier faster replacement with original equipment quality and accuracy.

DETROIT ALUMINUM & BRASS CORPORATION

DETROIT 11, MICHIGAN



2

make a
team
for
Diesels!

A great Diesel team—Gulf Dieselect Fuel and Dieselube Motor Oil H.D.—assures you maximum performance and keeps your operating costs in line.



1. Gulf Dieselect Fuel

This exceptionally clean burning fuel helps prevent fouling of oil control rings and reduces ring sticking.

It is a straight run distillate (contains no cracked material) that does not form harmful deposits in tanks, filters, and injectors. It has high volatility, a high octane number and low end point.

You can be sure of cleaner valves and minimum smoke with Gulf Dieselect Fuel because it burns so evenly and completely. Try it for a new kind of engine performance.

2. Gulf Dieselube Motor Oil H.D.

The Diesel lubricating oil that combines quality and economy—that delivers high mileage, yet is low in cost.

Gulf Dieselube Motor Oil H.D. is a heavy-duty type oil that not only provides effective lubrication, but has the right level of detergency to prevent harmful deposits on pistons, piston rings, and oil screens.

Let us prove that Gulf Dieselect and Gulf Dieselube Motor Oil H.D. can do a better combustion and engine lubrication job in your Diesel fleet. Contact your nearest Gulf office, or write on your letterhead to Gulf Oil Corporation, 1822 Gulf Building, Pittsburgh 30, Pa.

Gulf Oil Corporation
Gulf Refining Company

The finest petroleum products for all your needs

Formula for Stopping

Continued from Page 79

power applied to the cam and cut the stop by another 1/2 ft. However, we were still getting locked wheels on the front axle and we knew we could do better.

Test No. 6. In this final check we put 5-in. slack adjusters on the front axles; increased the rear axle

slack adjuster arms to 6-in.—and brought the stop down to 26.5 ft at 20 mph. Front wheel lock had been eliminated entirely and tread marks showed a perfect pattern all the way through the stop.

Now admittedly these are not scientific tests performed with ex-

pensive instruments. Data, however, is valuable only in that it gives us comparison figures upon which to experiment with various combinations. Even these stopping distances may not mean anything to other fleets. Let me emphasize, again, that regardless of how the testing is done, some form of testing is the best means of determining what your equipment will do on the road. You will know then that you have selected the brake that will give you the best stop you can get—with present day components. That in itself justifies the time and effort.

Equipment Modification

While Baltimore Transfer does not have a regular program of modifying equipment or redesigning it to improve braking stops, we do insist upon certain requirements in design that speed brake application. We know from tests with BPR and various company tests that:

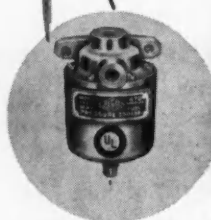
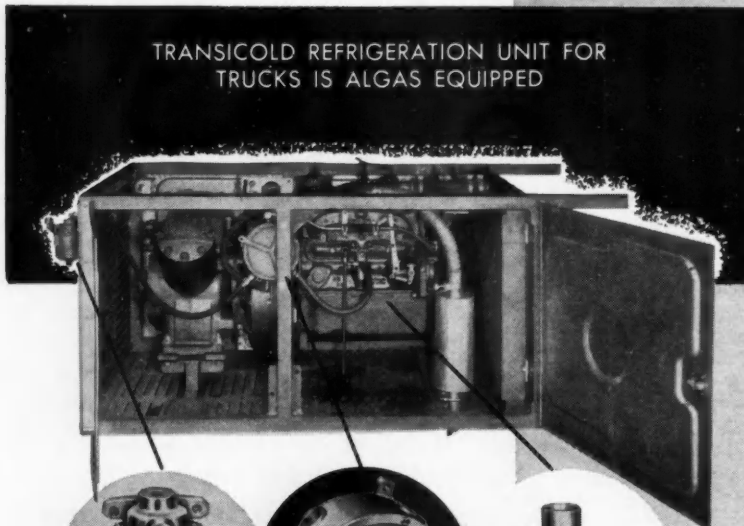
1. Simplification of piping on air systems improves the stopping distance.
2. Large diameter lines from the tank to the relay valve will pay dividends in improved braking performance.
3. A reduction of the number of 90 deg bends will speed the application time.
4. Straight through hose connections improve the speed of air travel and reduce the final stopping distance. (In actual test with such a coupling we reduce the stopping distance from 26.5 to 26.0 ft at 20 mph.)
5. Under capacity relay emergency valves are common causes of excessive lag.

We find sometimes that there are more pipe fittings in a particular line than is necessary. Many times manufacturers set the hose couplings several feet up on the front of the trailers, necessitating the use of 90 deg elbows that definitely retard the application time. Tractor manufacturers sometime use excessive fittings in running the lines from the pedal valves to the trailer brake hoses.

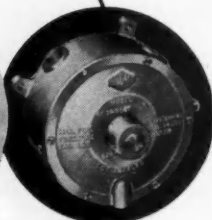
We specify the type lines we want, sizes and, in some cases, location in the purchase of new equipment. (TURN TO PAGE 154, PLEASE)

YOU NAME IT! **ALGAS LP-Gas** equipment will do it!

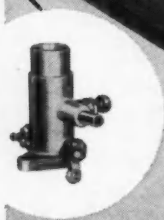
TRANSICOLD REFRIGERATION UNIT FOR TRUCKS IS ALGAS EQUIPPED



670 Filter



1900-E Converter
UL APPROVED



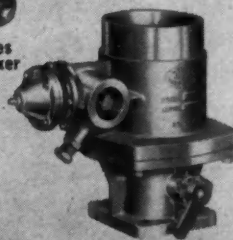
1690 Carburetor



1400 Series
Carburetor



1600 Series
Adapter-Mixer



1609 Carburetor

It makes no difference whether it's an installation like the one above or for a Rolls-Royce aircraft engine, ALGAS makes LP-Gas equipment for it because *ALGAS is the only complete line*. The carburetor used on the Transicold unit is only 3-3/8" high with a 1/2" SAE flange size and the airhorn OD is 1-1/8". Model 1609 carburetor shown at the right is 10-3/16" high, has a 3-1/2" SAE four bolt square flange, and an airhorn OD of 5-1/8". Right down the line for all industrial engines, busses, trucks, and forklift units there is a piece of field tested ALGAS equipment engineered for every need.

Write or wire today for complete information

AMERICAN LIQUID GAS CORPORATION

1109 Santa Fe Avenue • Los Angeles 21, California

DELPHI BODY 123 Crew Cab Unit, for truck and use for heavy construction and transmission lines, etc. Hansen and Locks on door

DELPHI 1260-A B fitted with dig Used by Telephone Companies for holes, light construction, etc. Doors Hansen Handles a



Built k

DEL



No. 58-2 LOCK of right—without dia. Fitted with made of high carb steel to insure operation. Size 2" long overall. Easy to Lock requires no blocking. Die-bushing.

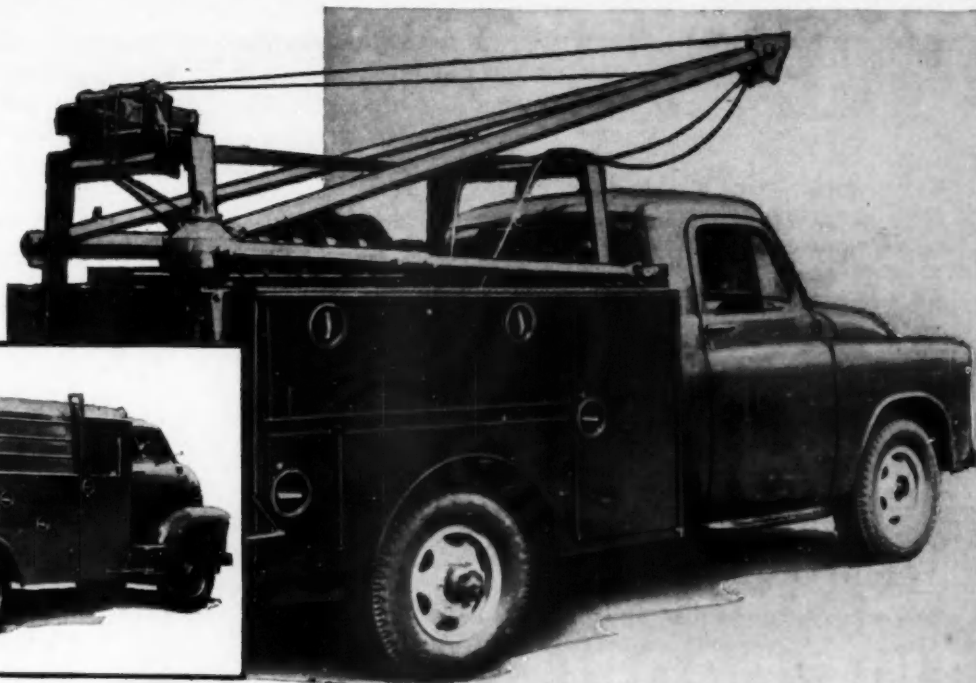
No. 10 CONTINU (below). Economic Easy to use. Max and 12" lengths, hinges of any length. Strong. Adap be quickly assembled to any required ready use.



COMMERCIAL CAR

DELPHI BODY 1231-A (below)—a Crew Cab Unit, for carrying men, with truck and equipment. Used for heavy construction of power and transmission lines, laying gas lines, etc. Hansen Flush Handle and Locks on doors.

DELPHI 1260-A Body (at right), fitted with digger equipment. Used by Telephone and Electric Companies for digging pole holes, light construction service work, etc. Doors equipped with Hansen Handles and Locks.



Built by DELPHI Body Works

(INCORPORATED)

and Equipped with QUALITY HANSEN HARDWARE

"Your Handles and Locks, which we have used for a number of years, have given us great satisfaction. They're pleasing in appearance, rugged in construction and trouble-free. Our customers, the Public Utility Companies, are both careful and particular of this equipment, and your line of Hardware has been satisfactory to them."

DELPHI BODY WORKS, INC.

LONG-TIME USER OF HANSEN HARDWARE, the DELPHI BODY WORKS, Delphi, Ind., have maintained their quality standards for more than a century. During this time they have built all types of units, including—Wagons, School Buses, Mobile X-Ray Units, and now specialize in building Utility Truck Bodies.

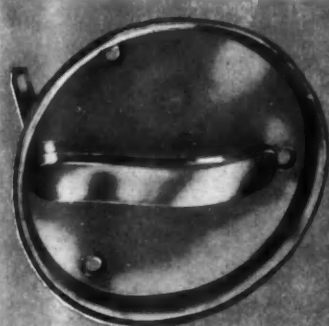
Specimens of the bodies they build are illustrated, including: (1) Utility Truck with digger equipment, for digging pole holes, light construction, service work, etc. (2) Crew Cab Unit for carrying men, with truck and equipment—used for heavy construction of power and transmission lines, laying gas lines, etc.

Both units shown are fitted with Hansen Hardware, as pictured in panel at left. They find this Hardware, "Very satisfactory, pleasing appearance, rugged in operation and trouble-free. . . . For a great many years we have used Hansen Hardware on various types of Utility Truck Bodies which we manufacture, and think it is the best in the field."

When you want the very best in body hardware, choose, specify and use—HANSEN, "the hardware for hard wear!"

Send for New Literature showing the Hansen Line.

A. L. HANSEN MFG. CO.
5047 RAVENSWOOD AVE., CHICAGO 40, ILL.



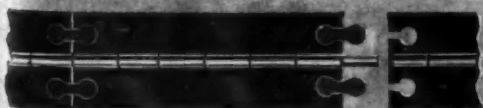
No. 30 FLUSH HANDLE (at left). Gives bodies that "finished look." Dimensions: Recess, 4 1/2" dia., 1/2" deep. Flange, 7 3/32" dia. Shank, 3/4" long, 5/16" dia. Interchangeable for right- or left-hand operation. Weight, 1 lb. Standard, chromium plated handle, cup cadmium finish. All cadmium, if specified.



No. 58-2 LOCK (left-hand)—at right—without outside handle. Fitted with light spring made of high carbon tempered steel to insure smooth, easy operation. Size, 2" wide, 3 3/4" long overall. Easy to install, as Lock requires no mortising or blocking. Die-formed steel bushing.

No. 10 CONTINUOUS HINGE (below). Economical to stock. Easy to use. Made in standard 12" lengths, for making hinges of any length. Compact. Strong. Adaptable. Can be quickly assembled and cut to any required length for ready use.

Hansen makes a complete line of commercial body hardware—locks, regulators, handles, hinges, etc.



Formula for Stopping

Continued from Page 152

ment. We work closely with manufacturers and usually get this done before the equipment is delivered.

Where production time at the factory is set up so that this is not economically feasible, we make the adjustments ourselves. We mount the gladhand couplings with a maximum of one 45-deg fitting just

above the fifth wheel plate. We install (where necessary) $\frac{5}{8}$ -in. lines from tank to relay emergency valve on the trailer. We check up on the entire piping diagram and where any bend or fitting can be eliminated, that is promptly done. The result of a few hours work along these lines has helped appreciably in reducing lag time in the air brake system.

Here are some figures, prepared during the BPR tests which prove

the value of this work. This graph shows improvements effected in one of our 2-axle tractors with a semi-trailer hauling 40,750 lb. The time required to reach 75 lb pressure at the brake chambers on axle 3 was originally 0.62 sec. After adjustments and streamlining mentioned above, the time was 0.37 sec. The final stopping distance of 25 ft from 20 mph represents a figure that can be attained with careful attention to these factors.

Reduce Lag Time

Here is what was done, specifically, to produce this improvement: A new type relay emergency valve was installed on the trailer. A new relay valve was installed on the tractor. The line from the tank to the emergency valve on the semi-trailer was changed from $\frac{3}{8}$ -in. diameter to $\frac{1}{2}$ -in. And finally, the vehicle was given a minor brake adjustment.

I might review here some of the actual improvements affected in specific vehicles during the BPR tests on typical equipment. In one case as much as a 19.5 per cent improvement in stopping distance was made on a rig when new relay valves were installed. In this case the valves were either sluggish or they did not have the capacity to permit rapid movement of air through them. We find this so important that we have developed a special test for the valve as will be discussed later.

It was found that whenever the smooth inner surface of a line is interrupted or its cross sectional area is abruptly changed, resistance is built up to the flow of air. Take an ordinary street elbow. The opening in the small end of a $\frac{3}{8}$ -in. elbow is no larger than the inside diameter of a piece of $\frac{1}{4}$ -in. pipe. This is why we use brass fittings with machined inner surfaces whenever changes are made in the system.

Tests on one vehicle showed that as many as 15 elbows of various types could be removed. When straight fittings were substituted for some and others were completely eliminated, the stopping distance was reduced 4 ft at 20 mph, and at 40 mph the distance decreased by 16 ft.

(TURN TO PAGE 156, PLEASE)

NO TUBELESS TIRE PROBLEMS

When You Use
RUGLYDE® with
Controlled-Friction®

Why have leading tire manufacturers recommended only RuGLYDE for tubeless tire lubrication? . . . because only RuGLYDE has Controlled Friction! Gives proper lubrication so that tubeless tires will slip into place easily and seat properly, even on safety rim wheels, yet, after inflation, tires will stay in position—won't creep.



RuGLYDE also helps protect against damage due to scuffing the rim-seal ridges and base of beads . . . won't cause rust . . . or build up hard deposits in the sealing ridges that can cause air leaks.

Write today for your free illustrated folder and wall chart that tells how and why RuGLYDE and RuGLYDE Service Kit make tubeless tire mounting safer, easier.

To save time and RuGLYDE, use RuGLYDE in its custom-designed Service Kit, with special brush and applicator. See your supplier for details and money-saving introductory offer.



RuGLYDE is the registered trade mark of
AMERICAN GREASE STICK COMPANY
Muskegon, Michigan

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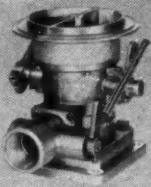

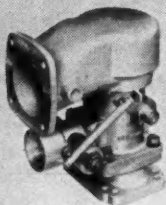




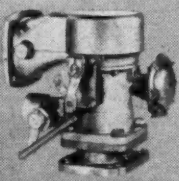

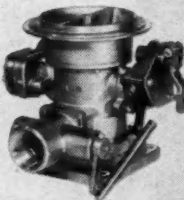
THERMO KING HAS "S. A."

We mean Service Attention, of course, because only THERMO KING has an international network of authorized service and parts stations. You won't find anything with as much sex appeal in coveralls, but in every THERMO KING service station you'll find competent, factory-trained mechanics ready to service your unit. Remember THERMO KING's "S. A." (Service Attention) . . . it's an important *plus* you get only when you buy THERMO KING transport refrigeration.



U. S. THERMO CONTROL CO.

44 SOUTH 12th ST., MINNEAPOLIS 3, MINN.

 REO	 FORD	 MACK
<h1 style="text-align: center;">CENTURY</h1> <h2 style="text-align: center;">METERING VALVE LP-GAS Carburetors</h2> <div style="text-align: right;">  </div>		
 DIAMOND-T	 CHEVROLET	 DODGE
 WHITE	 GMC	 INTERNAT'L

For All Trucks

ENGINEERED for each engine
CALIBRATED to each engine
PRE-SET to a performance curve

**NOT
AFFECTED BY...**

TEMPERATURE CHANGES
HIGH OR LOW ALTITUDES
CHANGING GAS PRESSURES



STARTS INSTANTLY in coldest weather.
GIVES INSTANT power—no choking or fluttering.
IDLES PERFECTLY in all conditions.
BALANCES POWER of each cylinder.
NO MULTIPLE ADJUSTMENTS—tune up only.
PERFORMS AT ALL speeds to pre-set perfection.

Set it! Seal it! Forget it!

CENTURY GAS EQUIPMENT CO., 11188 Long Beach Blvd., Lynwood, Calif.

Formula for Stopping

Continued from Page 154

In some cases extra lengths of tubing can be removed to advantage. Naturally if the distance through which the air must travel is shortened, the time will also be reduced. We relocate any valves or brake components such as reservoirs and relay valves to a central point between the brake chambers they must serve. We keep the reservoir as near the relay as possible and thus shorten application time.

PM Procedures

We firmly believe—and the BPR reports bear out—the fact that sound PM programs are the immediate answer to a fleet's braking problems. As was indicated in this report, good brake adjustment is the key to improved stopping distances.

We believe—that the problem is as simple as this: Make minor adjustments often and you have gone a long way toward solving your problems. Our service is set up on a two-week basis. We require a minor adjustment at this period, which in normal operation corresponds to around 1200 miles. It's simple, but it's often.

Standard procedure is to screw the slack adjusters up until the shoes are in full contact with the drum. Then slack off FOUR notches. This will give sufficient clearance between drums and shoes. It will insure the driver that there is a consistent amount of brake available at all times. It insures the company that the brakes have had attention. It requires very little time and does not require jacking up the vehicle.

To those who might call this a haphazard method, I can only say that it is working—has been working for us for years. In other words, a quick, periodic adjustment every 1200 miles is better than waiting for thorough service at some period in the future when the trailer is in or when the shop finds the time to do the job.

Too much emphasis cannot be placed on the importance of keeping (TURN TO PAGE 158, PLEASE)

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GRE
THE NEW

COMMERCIAL

Handle TODAY'S REPAIRS Right!

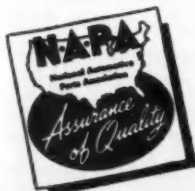
Choose
"Professional" Tools
by
New Britain



Greater strength, better fit, completeness of Line... New Britain Hand Tools offer you these BIG advantages. They handle today's repairs better, easier, and faster—add up to big savings in mechanics' time and trouble.

Whatever the job, there's a New Britain Tool designed to do it *right*—a complete Line of rugged Tools, designed by mechanics for mechanics, available individually or in sets to meet every shop requirement. All are carefully engineered, made from top quality materials, and fully guaranteed. You can count on New Britain Tools to give a lifetime of useful service.

See these great New Britain Tools today! Write for Catalog No. 58 and complete details.



New Britain

GREATER STRENGTH • BETTER FIT HAND TOOLS
THE NEW BRITAIN MACHINE CO. • NEW BRITAIN, CONN.

NEW!
FACTORY APPROVED TOOLS FOR
HYDRA-MATIC TRANSMISSIONS

AKC-2
MULTI-PURPOSE
CLUTCH SPRING COMPRESSOR

ACT-1
FRONT & REAR
CLUTCH TESTER

AGS-1
GOVERNOR SLEEVE
ALIGNING TOOL

PLUS... A Variety of Tools for Servicing Other Automatic Transmissions!

**DYNAFLOW • POWERGLIDE
FORDOMATIC • MERCOMATIC
HYDRA-MATIC**
Ask for Complete Information

Formula for Stopping

Continued from Page 156

the air lines free of oil and moisture. Automatic moisture ejectors are worthy of consideration particularly in areas of high humidity. We use them and have good luck with them. It is recognized that operators in colder climates may have trouble. There, however, they may not be required if a careful

check is made on drainage of the tanks.

Thorough Cleaning

It should not be necessary to mention the importance of periodic attention to the air cleaner on the compressor, for here is the chief cause of oil accumulation in the lines. A periodic service for adjusting the compressor valves, overhauling the unit and setting the governor is set up in our fleet.

We emphasize the thorough cleaning of the foundation system whenever the vehicle is in for brake work. Excessive greasing permits dirt to collect on cams and rollers, and this either causes sluggish actuation, or contributes to excessive wear. Circle grinding of the drums is the rule, and care is used in fitting the drums to the exact circumference of the shoes. However, it is recognized that this procedure is standard in most fleets.

Brake Testing

The chief test made on a newly overhauled trailer is on the relay emergency valve. A quick test is made of this unit for actuation and a general test for line leakage is conducted simultaneously. Here's the set-up.

The testing device provides for a source of air corresponding to the tractor and available at the wall behind the trailer overhaul stall. It admits air to the trailer brake lines and permits checking of the pressure drop through the system.

The device consists of a supply tank, regulator, water trap, hand control valve, two test gages and two lengths of hoses corresponding to the amount of air lines in the trailer air system. Air is admitted from the shop air supply. The emergency hose is connected into the emergency line on the trailer, and the service hose is connected into the service line.

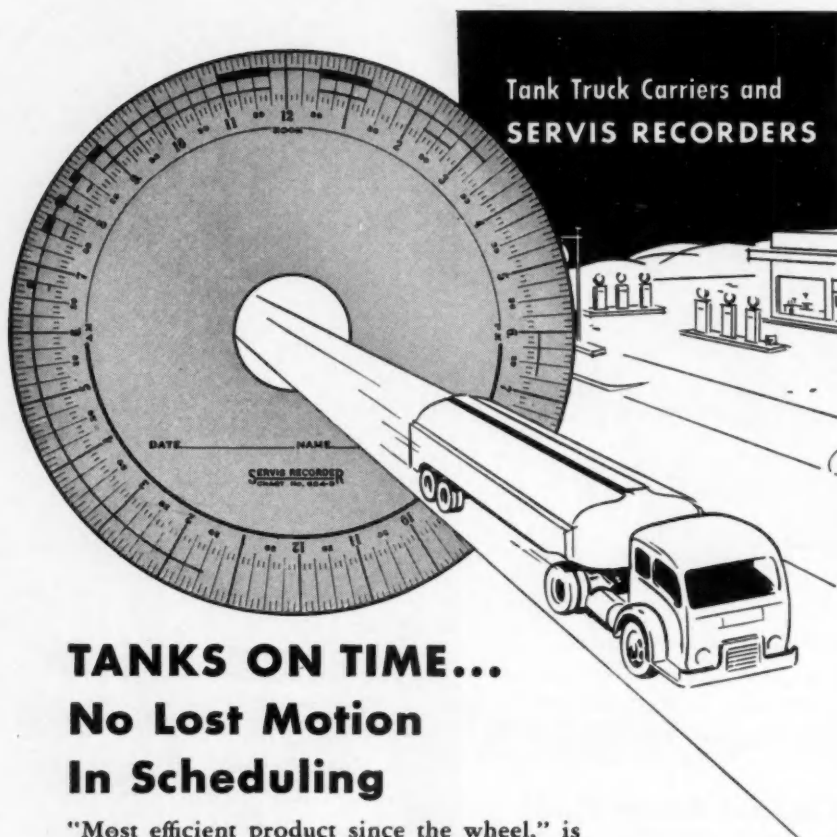
Test Tolerances

An air pressure gage is connected into a fitting at the brake chamber, and the system is filled with air. Pressure is checked on the gage connected into the service line with the pressure obtained at the wheel. A maximum of 2 lb variation between the two is allowed. In case of more, the relay valve is checked for obstructions, wear, leakage, or contamination. A 2 sec delay is considered maximum amount of lag as noted on the gages. While speed of air travel could be checked with this tester more accurately with a timer, we do not feel at this point that it is necessary since everything that can be done—has been done to speed up the application.

END

Please Resume Reading Page 80

COMMERCIAL CAR JOURNAL, July, 1955



TANKS ON TIME... No Lost Motion In Scheduling

"Most efficient product since the wheel," is the conviction about Servis Recorders as expressed by owners of fuel hauling fleets. That's because Servis Recorders help keep scheduled deliveries on schedule—with no lost motion. Servis Recorders show the pumping time, also, and record all delays and idle time.

Our Model DS provides the pumping time record if desired, or will show motor idling if this is important. This second record indicates when the motor is left running unnecessarily. But the Servis Recorder does so much more—write for the whole story. THE SERVICE RECORDER CO., 1375F Euclid Avenue, Cleveland 15, Ohio.

ASK about our **TURNOVER SWITCH**, to prevent fires in case of turnover.

Write today for free booklet—
"Ten Ways of
Getting More
Work Out of
Motor Trucks."



The Servis Recorder
Tells Every Move Your Truck Makes

For S
Bus C

Leading bus
ating system
experience u
Midland equi
cally and effi

For either
Midland air
equipment fo
Midland's co
dependable o
Another bi
Wherever yo
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complete ser
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Write toda
door operati

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For Safe, Dependable Door Operation . . .

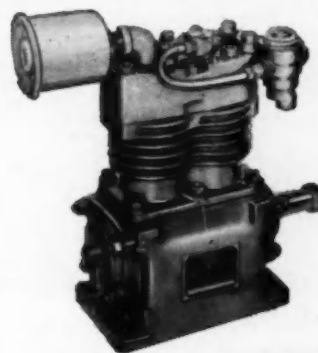
Bus Operators Prefer MIDLAND!

Leading bus manufacturers specify Midland air door operating systems as original equipment because years of experience under the most rigorous tests have proven Midland equipment stands up best, operates most economically and efficiently.

For either straight air or electro-pneumatic operation, Midland air door operating systems provide time-proven equipment for long-life, low-cost, trouble-free service. And Midland's complete line includes every safety device for dependable operation.

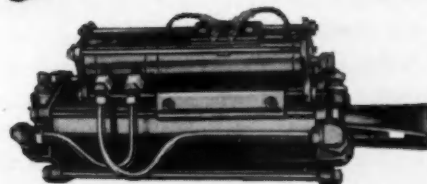
Another big advantage is Midland's nation-wide service. Wherever you are you're always near a Midland distributor, where you can secure genuine Midland parts and where complete service facilities are available for your own or your customers' vehicles.

Write today for complete information on Midland air door operating systems. They're the finest.



Midland Air
Compressor

Door Engine And
Solenoid Valve
Assembly



MIDLAND

STEEL PRODUCTS COMPANY

3541 E. Milwaukee Avenue • Detroit 11, Michigan
Export Department: 38 Penn Plaza, New York, New York



Those Who Know
Power Brakes
CHOOSE MIDLAND!

Cummins Turbodiesel Cuts Weight

Continued from Page 94

cent more power than the naturally-aspirated model.

The new four-valve cylinder head design (two intake and two exhaust valves) has improved breathing characteristics. This improvement is responsible for

the improvement in power and economy of the JNS-6 compared to the JS-600. The combination of turbocharging and the new cylinder head allows the JT-6 to develop 175 hp with the same quantity of fuel as the JS-600 at 150 hp.

CONTROLLED HEAT

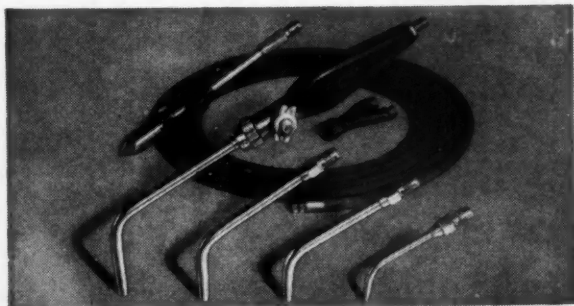
for

Body Soldering

Prest-O-Lite

Trade-Mark

BODY SOLDERING OUTFIT



Body
Soldering
Outfit



Solder the modern, economical, air-acetylene way. With the four different sized stems and the soldering iron in this outfit, you can handle any body soldering job without wasting gas on unnecessary heating. A shutoff valve and pilot flame control, built into the handle of the torch, insure efficient operation and gas economy. Just attach the handy "Y" connection to the outlet of your acetylene welding regulator and operate both oxy-acetylene and air-acetylene outfits from the same cylinder. Ask your local LINDE jobber for a demonstration. Or write to LINDE AIR PRODUCTS COMPANY, a Division of Union Carbide and Carbon Corporation, 30 E. 42nd St., New York 17, N. Y. In Canada: Linde Air Products Company, Division of Union Carbide Canada Limited, Toronto.

Get it from your LINDE jobber

The terms "Prest-O-Lite" and "Linde" are registered trade-marks of Union Carbide and Carbon Corporation.

Turbocharger Mounting

The turbocharger on the JT-6 usually is mounted above the exhaust manifold on the right hand side of the engine. However, mountings for other locations at the rear and side of the engine are available for meeting specific application requirements. Air is piped across the top of the engine to the intake manifold.

Leading truck manufacturers have incorporated the JT-6 as standard diesel power for their lightweight, space-saver designs. The JT-6 is available in Diamond T model 723-C tilt cab and 723 conventional tractor; Freightliner's spacemaker; Hendrickson BD-24 space-saver; International series 190, 200, 300 and 400 tilt cab, conventional and super-space saver designs; Kenworth's cab-side-engine tractor; White's new 9000 TD space-saver. The JT-6 also is available in Beck, Flxible and Fitzjohn intercity buses.

PT Fuel System

The PT Fuel System is a continuous flow type and, consequently, needs no timing adjustment. There are no fuel racks or plunger pumps to adjust. Check valves, injector valves, float valves and other troublesome features of other diesel fuel systems are completely eliminated. A fly-ball type governor controls idling speed and limits maximum speed. Metering of fuel is accomplished by pressure changes controlled by a pressure regulator, throttle and governor. Fuel is metered into the fuel injector cup and is "pushed" into the combustion chamber on the downstroke of the injector plunger. Fuel is injected as a fine spray into an open type combustion chamber.

In this four-valve cylinder head design, the valves and injector are actuated from the engine camshaft through a push-tube and rocker lever linkage. Valve seats are stellite inserts to give long life. The exhaust valves also have stellite facing. The cylinder head is a single casting with large water passages for cooling of the injectors and valves.

END

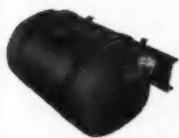
Please Resume Reading Page 96

Underwriters L
INSPE
AUTOMOTIVE
No. A
Meets I. C. C. R.
Side Mounting
10-100 CAPACITY



"L-STEP"

For under cab mounting. Transfers from 300 to 500 lbs. weight to front axle... full length safety running board feature. Brackets separate from tank, eliminating strain on tank heads. 75, 60, 50, 40, 30 gallons capacity for single tank.



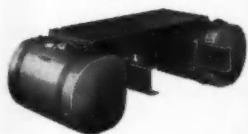
"OB-ROUND" SINGLE

Designed to hug the frame... all Prior Safety Features... convex type head and lap welded seams... installation without welding or drilling. 54, 47, 42, 40, 35, 31 gallons capacity.



"CYLINDRICAL" SINGLE

Center or end fill... dished heads... removable fuel supply line... installation without welding or drilling. 60, 56, 52, 49, 40, 38, 35 gallons capacity.



"OB-ROUND" SETS

Center or end fill. Stays well within rear tires, riding frame closely. Add less weight per gallon. Six regular sizes: 108, 94, 84, 80, 70, 62 gallons capacity in sets.



"CYLINDRICAL" SETS

Cylindrical construction resists collision. Curved angle irons; pilfer-proof tool chest and jack-well plus all modern safety features. Five regular sizes: 120, 112, 104, 80, 70 gallons capacity in sets.



"SADDLE MASTER"

Ob-Round construction with convex type heads for greater impact protection... lap welded for greater strength. Stress relieving safety baffle. Four regular sizes: 150, 135, 125, 105 gallons capacity.



"MILEAGE MASTER"

Separated tanks relieve strain and eliminate seam cracking. Either tank unit replaceable in event of collision. Four regular sizes: 150, 135, 120, 105 gallons capacity.

Underwriters Laboratories, Inc.
INSPECTED
AUTOMOTIVE FUEL TANK
No. A-11498

Meets I. C. C. Requirements for
Side Mounted Fuel Tanks
100 GALLON CAPACITY, 100 LB. GROSS WEIGHT

Prior GASOLINE OR DIESEL SAFETY TANKS

BUY TANKS LIKE TRUCKS ...TAILORED TO THE JOB

Why carry excess fuel weight? Equip your truck with the proper size and style tank for the job it has to do. Every gallon of excess fuel carried means a reduction of approximately six pounds payload.

Don't equip your truck with 125 gallon capacity tanks if you only need eighty gallon capacity to do the job.

Prior offers the most complete line of safety fuel tanks on the market. Every Prior Safety Tank carries the Underwriters' Label and meets I.C.C. requirements.

It will pay you to see your nearby Prior Safety Tank Distributor for analyzed recommendations of the correct size and style safety tank to meet your specific requirements.

PRIOR PRODUCTS, INC.

P. O. BOX 7608

DALLAS, TEXAS

P. O. BOX 349

MIDDLETOWN, OHIO

Fleetman's Library

Continued from Page 88

Two-way radio has a lot of advantages for truck operation and this new booklet lists six cost-cutting benefits. It also includes several fleet case histories that may suggest how you could use two-way radio to an advantage. It is published by Radio Corp. of America, Camden, N. J., and is available by circling L 9 on the post card on page 84.

Shop tools, including pullers and accessories, reamers and cutting tools, pliers, hammers, punches, drivers, brake tools, rethreaders, valve and cylinder tools and other special automotive tools, are described in this new catalog from National Machine and Tool Co., Inc., Jackson, Mich. For your free copy, circle L 10 on the postcard on page 84.

Tubeless tire service kit made by American Grease Stick Co., called the "RuGlyde" service kit, is described in this handy folder that includes step-by-step tubeless tire servicing pro-

cedures on its inside spread. Circle L 11 on the postcard on page 84 for your free copy.

Tubeless tire bead expander being made by National Machine and Tool Co., Jackson, Mich., is designed to let compressed air do the work. Circle L 12 on the postcard on page 84 for a copy of a bulletin that describes how it works.

Dry ice reefer bunkers made by Foster-Built Bunkers including the Frigi-Matic, the Rear Loader and the Refrigerette for smaller trucks as well as standard models are described in this new catalog you can get by circling L 13 on the postcard on page 84.

Air compressor folder made available by Ingersoll-Rand describes the company's new 20-hp, air cooled unit with channel valve. Circle L 14 on the postcard for your free copy.

Fageol LP gas engine specifications, performance data and descriptions are given in this new folder available free by circling L 15 on the postcard on page 84.

Conversion units for converting diesel engines to LP gas operation are described in this folder from Powersearch Corp. Fleet experience with the unit was described in CCJ, March '53, page 80. For a free copy of the folder, circle L 16 on the postcard on page 88.

Prefabricated chassis and body parts made by Binkley Mfg. Co. are fully described and illustrated in this 32-page catalog. Cross sections and other engineering drawings of the parts are included. Circle L 7 on the postcard for a free copy.

Auto-Lite's service parts wall chart is now available in its 1955 edition. Complete application information for starting motors, distributors, coils, generators, regulators and component parts are given. Contact your local Auto-Lite distributor or write Electric Auto-Lite Co., Parts and Service Division, Toledo 1, Ohio.

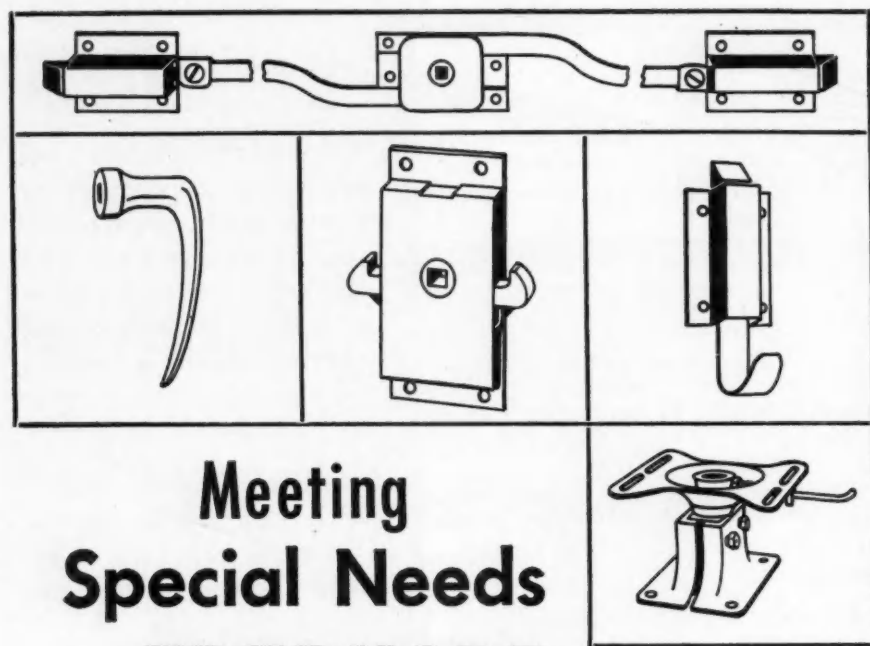
Highway statistics, 1953, latest available year, are presented in this 142-page book available from Superintendent of Documents, U. S. Government Printing Office, Washington 25, D. C. Price is \$1.00. Ask for Catalog No. C 37.2:H 53/953.

"Better Roads for Our Growing Nation" is a 56-page report from the U. S. Chamber of Commerce's 1955 National Conference on Highway Financing. Copies are \$1 each. Write Transportation and Communication Dept., U. S. Chamber of Commerce, 1615 H St., N.W., Washington 6, D. C.

END

Please Resume Reading Page 90

COMMERCIAL CAR JOURNAL, July, 1955



Meeting Special Needs with **EBERHARD** stock items

The complete, quality line of Eberhard truck body hardware in many instances makes it unnecessary to design and make special fittings for unusual requirements.



Body built by
Boyetown Body Co.
Boyetown, Penna.

As an example, the light delivery truck shown here incorporates Eberhard items as follows:

No. 5696 Sliding Door Lock, No. 565698 Lock with 2 offset Slide Bolts, No. 3-5653 Inside Handles, No. 2-565697 Finger Hook Bolts and a No. 575716-A Seat Pedestal.

EBERHARD MANUFACTURING COMPANY
EVARTS AVE. • CLEVELAND 4, OHIO
Division of the Eastern Malleable Iron Company



**LONG
RUN**

TRUCK BODY
HARDWARE BY

EBERHARD

THE MOST COMPLETE LINE AVAILABLE

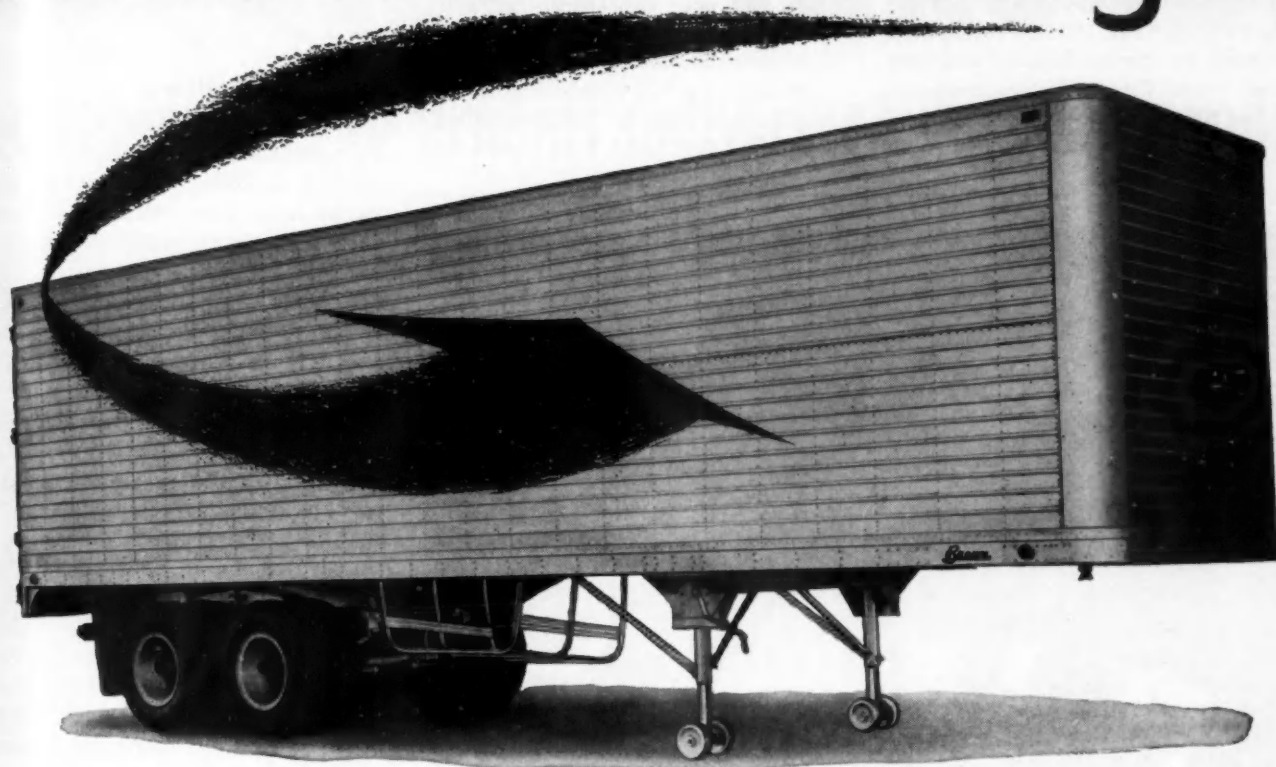
WATSON
cided on
maximum
of trouble

FIRST V

• Write

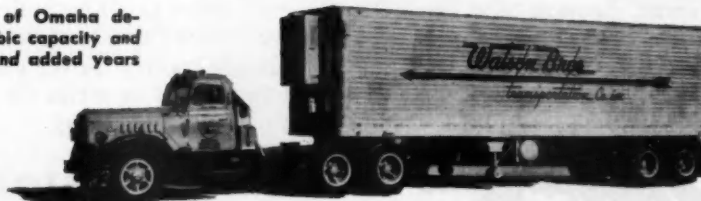
COMMERCIAL

Sidewall Strength



**Brown Gives You Maximum Capacity
Consistent with Durability—The
Greatest Capacity Possible Without
Jeopardizing Sidewall Strength**

WATSON BROS. TRANSPORTATION COMPANY, INC. of Omaha decided on Brown high-volume vans — for maximum cubic capacity and maximum sidewall strength — for added cargo space and added years of trouble-free service.



FIRST WITH THE FINEST



• Write for Folder H-14

SERIES H LINE . . . GREATER LOAD-ABILITY

BROWN TRAILERS, INC.
READING • SPOKANE • TOLEDO
WASHINGTON

Sales And Service In Principal Cities

"Automatics" Featured at SAE

Continued from Page 77

our fleet average between engine overhaul was about 75,000 miles. Now, our first Hydra-Matic units are well over the 100,000-mile mark without an engine failure, and how much over this mileage they will go, we as yet do not know. It looks like we might be able to get from

150,000 to 200,000 miles before any engine needs rebuilding and I am sure you can realize the savings this represents in maintenance cost in a fleet the size of ours.

During the "C" inspection period on these trucks at 100,000 miles, we pulled the hand hole covers on

the engines and they are as clean as new on the inside. In testing rings, etc., there is no sign of wear or sludge, or any indication that these engines will not go as far again as they have already gone. The compression on these engines with over 100,000 miles is still well within the factory specifications for a new engine.

Miles per Gallon

A list of figures or statistics on cost-per-mile of operation in itself proves nothing. The cost of fuel varies locally, as well as the hourly rate of mechanics, and overhead in various sections. Likewise, it is difficult to compare one unit's average miles per gallon on fuel against another, unless they are on identical operations. I have available the fleet average in miles per gallon of both our Twin Hydra-Matics, that are cab-over-engine diesels, which operate regularly from Chicago to the east coast—and our conventional transmission H model diesels, that are conventional tractors, that ordinarily operate from Chicago to Somerset, Penna., only. The Twin Hydra-Matics operate more in the mountains of eastern Pennsylvania, and are more apt to have a different average weight due to over-all length and weight distribution laws. I feel that it is only fair to take these factors into consideration when making any comparison between the two. Our Hydra-Matics average .053 miles per gallon, in 1,263,689 miles, and our H models average .058 miles per gallon in 3,380,993 miles.

Cost per Mile

Now, when we discuss cost-per-mile of operation we have to consider the aforementioned difference of weights in loads due to length, etc., and also, the difference of location in routes or runs made by the units.

In arriving at a figure of cost-per-mile, I have included the cost of fuel, oil and lubrication, repairs and tires. For 3,380,993 miles it cost us .07700 cents per mile to operate our H model GMC units. For 1,263,689 miles it cost an average of .05374 cents per mile to operate the Twin Hydra-Matic DFM 660's.

(TURN TO PAGE 168, PLEASE)



Here's the "come on" line of Cap Screws and Finished Hex Nuts that means new profits for automotive dealers and repair shops.

The famous "original equipment" Lamson 1035 High Tensile Heat Treated Cap Screws have a brand new zinc and chromate plated finish. It is rust resistant and combines strength

with attractive appearance. Packed in an aluminum foil box, the "Silver Line" comes in fine or coarse thread in sizes from $\frac{1}{4}$ " x $\frac{1}{2}$ " through $\frac{1}{2}$ " x 2"—68 items in all including fine and coarse thread nuts to match. Simply specify "Silver Line" on your orders or write for a net price schedule today.



The **LAMSON & SESSIONS Co.**

1971 West 85th Street • Cleveland, Ohio
Plants at Cleveland and Kent, Ohio • Chicago • Birmingham



ONE OF THE WORLD'S LARGEST MANUFACTURERS OF AUTOMOTIVE FASTENERS

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We are there...
Spicer product de
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tronic and mechan
equipment.

Spicer service
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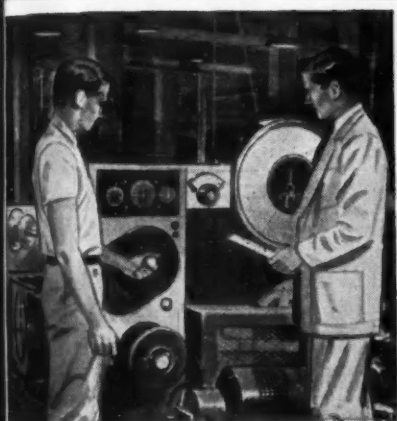
No matter who
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CORPO

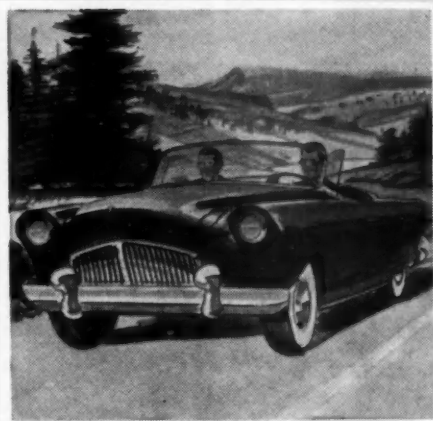
SPICER PROD
TAKE-OFFS • POW

IN FOLLOW-THROUGH

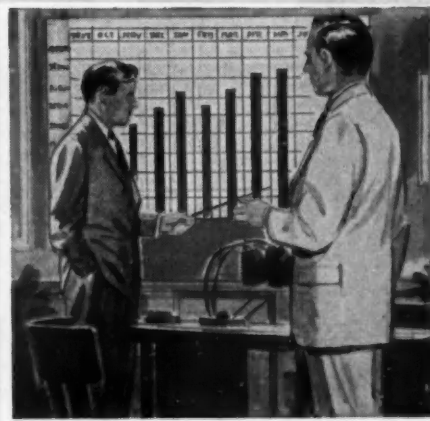
for tomorrow" to prompt delivery of finished product



We are there . . . on the job . . . when new Spicer product developments are tested by the industry's most advanced electronic and mechanical laboratory testing equipment.



We are there . . . on the job . . . when the customer's most punishing road tests check the correctness of Spicer design and manufacture.

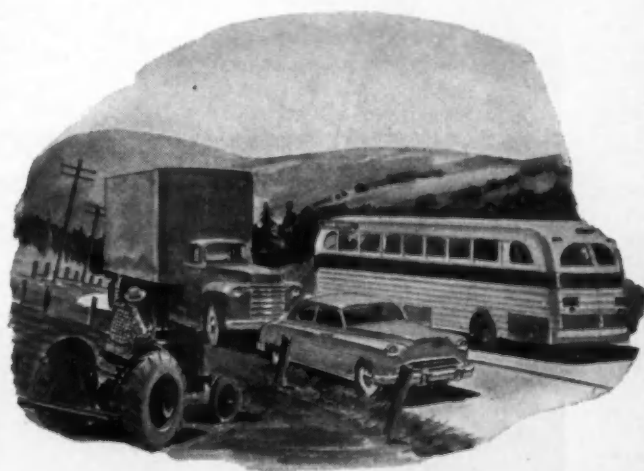


We are there . . . on the job . . . with product shipping schedules completely coordinated with the customer's anticipated monthly output.

Spicer service is complete and comprehensive. It creates . . . designs . . . engineers . . . manufactures. And keeps a sharp "follow-through" eye on the progress of each individual job through every step right to customer assembly lines.

Spicer service has been continuous to the automotive industry for over 50 years. Each year sees major power transmission developments which Spicer has created . . . designed . . . engineered . . . and manufactured. These advancements were months and years in their transition to practical use. The new designs we are working on today will be delivered as finished products, one . . . two . . . and three years hence, on schedule, and in keeping with the reputation of Spicer units as "The Standard of the Industry."

No matter what type of automotive vehicle you make . . . no matter what type of power transmission design you need . . . Spicer engineers and Dana resources can serve you well.



CORPORATION • TOLEDO 1, OHIO

SPICER PRODUCTS: TRANSMISSIONS • UNIVERSAL JOINTS • PROPELLER SHAFTS • AXLES • TORQUE CONVERTERS • GEAR BOXES • POWER TAKE-OFFS • POWER TAKE-OFF JOINTS • RAIL CAR DRIVES • RAILWAY GENERATOR DRIVES • STAMPINGS • SPICER and AUBURN CLUTCHES • PARISH FRAMES

"Automatics" Featured...

Continued from Page 164

Maintenance Must Be Well-Planned

By G. H. Maxwell

Hertz Stations, Inc.

WE NOW operate 162 vehicles with Hydra-Matic transmissions.

They have operated a total of 2,488,000 miles as of February 28 of this year. We have spent 588½ labor hours and \$2,103.27 on parts on these transmissions. Using \$3.50 per hour for labor, this is a transmission maintenance cost of .0016 per mile. The overall gasoline mileage for all models, regardless of size, is approximately 8.0 miles per gallon. The figure is approximately one mile to the gallon better than our overall average. Too much reliance should not be

placed on the gasoline mileage as it covers all kinds of operations, for all kinds of business, with all kinds of drivers, and with all kinds of loads.

On some of our medium duty units the transmission was running too hot. Why? The standard Hydra-Matic transmission in the model in question is air-cooled, the next larger Hydra-Matic transmission in the next larger truck model is water-cooled. After elimination of all of the other possible causes mentioned above, we narrowed the causes of failure down to this factor. The terrain was causing an overload condition not anticipated in our original study of the customer's requirements. The result was the same as loading the truck far beyond its rated capacity in level territory. Transmission temperatures became excessive as a result.

This brings up the most important thing, we believe, in the entire Hydra-Matic story. Vehicle selection is of primary importance. We are not going to be able to use a vastly overloaded Hydra-Matic transmission truck in any operation and get away with it. The transmission, engine, and axle ratio are balanced out to do a certain job and to do it exceedingly well, and we must follow the manufacturer's GVW or GCW when engineering these vehicles.

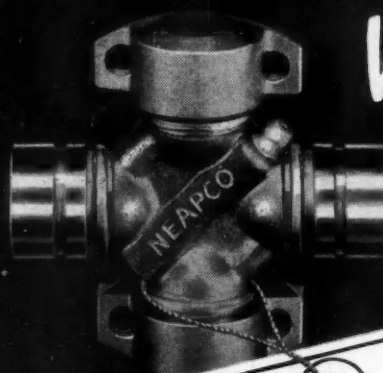
Training Important

Our supervisors state that probably the most important factor in the maintenance of these transmissions is mechanic training. They must know how to adjust linkage, how to adjust the bands, and how to shoot trouble. The manufacturer has recognized this in his recently established training schools.

Driver training is second in importance, but nearly equal to, training of the mechanics. The driver must be shown how to handle the unit, when to use the 1-4 range, when to down shift manually, when not to down shift, etc.

Third, proper servicing of the transmission is required. Fluid level must be kept at recommended heights, care must be used in adding fluid. We must be sure that the container is clean and that the

(TURN TO PAGE 172, PLEASE)




What's behind Neapco's price tag?

NEAPCO
NEAPCO PRODUCTS INC., POTTSTOWN, PA.

- ☐ Correct engineering . . .
to highest standards.
- ☐ Accurate manufacturing . . .
in our own plant.
- ☐ Strategic warehousing
at 22 points.
- ☐ Intelligent cataloging
and uniform packaging.
- ☐ Competitive pricing.
- ☐ A rock-ribbed GUARANTEE.

**Basic
Manufacturers
Since 1921**

**You get
real
VALUE**



NEAPCO PRODUCTS INC. • POTTSTOWN, PA., U.S.A.

UNIVERSAL JOINTS & PARTS

America's Most Complete Replacement Line

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ARMOR T
Delivery

COMMERCIAL C

more new proof...

MEAN REAL ECONOMY!

**Tougher tread for greater original mileage . . .
stronger cord body for more recaps! That's why
you get more miles per dollar with Kellys!**

Truckers' own records furnish the facts on the great performance of Kelly Tires. And the cold facts show these Kellys are second to none at rolling out big mileage on original tread . . . standing up under all kinds of trucking conditions . . . and giving those important bonus miles you get from recapping!

Kellys have a toughness in tread rubber and body carcass that really pays off on the job! And the men on the job are the

first to recognize it. That's why so many truckers send in unsolicited reports praising Kelly performance.

You'll be just as enthusiastic about the way Kellys perform for you! So why not get in touch with your local Kelly Dealer? He'll be glad to give you all the facts on Kelly performance and show you how Kellys can save money in your particular operation. The Kelly-Springfield Tire Company, Cumberland, Maryland.



**There's a tough Kelly
for every trucking job!**



ARMOR TRAC
Delivery

SUPER ARMOR TRAC
Highway

COMMERCIAL
Heavy Tread

DUAL TRAC
Special Service

LUG TRAC
Special Service

"Automatics" Featured...

Continued from Page 168

fluid is clean and that the method of filling the transmission is in line with recommended procedure. The transmission must be drained at recommended intervals and the bands must be properly adjusted when required. All these things are necessary for good results.

Unless the operator is willing to

do all of these things, just mentioned, and follow up on these practices, only poor performance can be expected. It is elementary to say that this is true of all mechanical devices today. We must be progressive in our vehicle purchases. Do not expect the Hydra-Matic transmission to get you out of drive line trouble if you are careless about clutch adjustments.

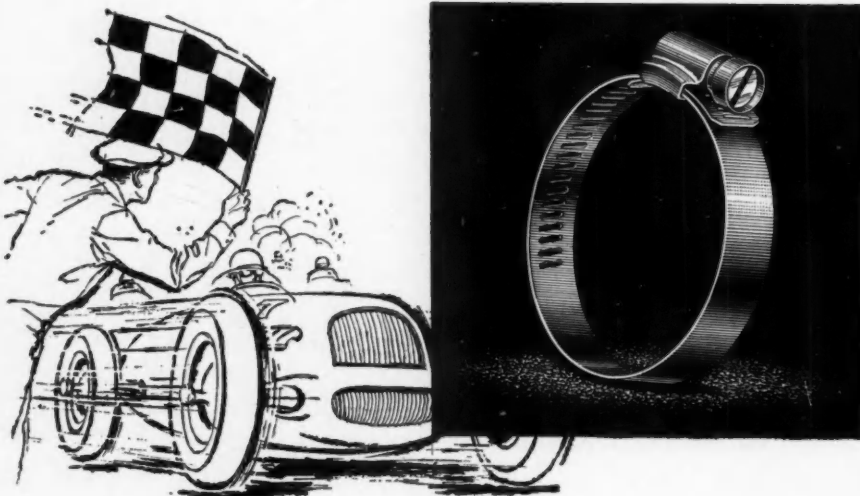
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Please Resume Reading Page 78

At the Indianapolis Speedway

WHERE HOSE CLAMP QUALITY IS CRUCIAL

Hy-Gear is the Unanimous Choice



The Speedway "500" — equivalent to 50,000 miles of normal driving — is famous as the supreme testing ground for automotive equipment. On each car there are over 50 critical hose clamp connections that must withstand vibration, pressure and pounding that ordinary quality could not survive. That's why hose clamp quality is crucial at the Speedway. That's why HY-GEAR was chosen by the drivers and mechanics of the 33 starting cars above all other hose clamps.

Hy-Gear
the "Speedway guaranteed" Hose Clamp



July News Roundup

Continued from Page 98



Marmom-Herrington Co., Indianapolis, Ind., has completed negotiations for purchase of Cardox Corp., Chicago.

Fawick Corp., Cleveland, Ohio, has been licensed to manufacture and sell Girling brakes and brake parts in the United States.

AC Spark Plug Division, General Motors Corp., Flint, Mich., has set up a \$4000 fellowship at the Massachusetts Institute of Technology for graduate study of instrumentation.

Napco Industries, Inc., Minneapolis, Minn., has purchased the Transe Loader Division of Westinghouse Air Brake Co. and will move the division to Minneapolis. It is now located in Coldwater, Mich., and manufactures front-end loaders for dirt moving.



Fleets awarding their outstanding, safe drivers recently include:

Kansas City Public Service Co., Kansas City, Mo.—to 45 bus drivers and streetcar motormen. All of them have a record of 25 years or more.

Baltimore Transfer Co., Baltimore, Md.—to 18 drivers. One of the drivers, with a 26-year accident-free record, received a trophy and \$150 in bonds.

Warner & Smith Motor Freight, Sharpsville, Pa.—to 37 drivers. Total record was 157 years of safe truck driving.

Pierce Freight Lines, Portland, Ore.—to 171 drivers. Seventy of the drivers from the Portland terminal received their awards at a husband and wife dinner.

W. L. Mead, Inc., Norwalk, Ohio—to 19 drivers. Each received a check for \$50. One driver had a 10-year accident-free record.

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